THE
MEDICAL AND SURGICAL
REPORTER.

No. 1990. APRIL 27, 1895. VOL. LXXII—No. 17

ORIGINAL ARTICLES.

AUSCULTATORY PERCUSSION AND ALLIED METHODS OF PHYSICAL DIAGNOSIS.*

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The value of acoustics in the investigation of the viscera is such that the term "Physical Diagnosis," without qualification, is usually understood to refer to methods in which, by the senses of touch and hearing, cognizance is taken of the vibrations of the various internal organs. It is important to note that we have to deal with sounds produced in at least three different ways:

1. Localized vibrations due to the friction of a fluid.
2. Localized vibrations produced by the mutual friction of solid tissues.
3. Resonant vibrations, by the thrill of some anatomical or pathological unit.

Under the first head, may be considered the auscultation of breath-sounds, of the circulatory organs (including the heart, both fœtal and adult, the umbilical, uterine and other large arteries, the cervical and other veins, the thyroid body, aneurysms, the cerebral pulse), of the gastro-intestinal tract (with special reference to direct and regurgitant murmurs at the cardia), and, theoretically, at least, of the superficial urinary organs. It is possible that urethral stricture might be located by the stethoscope and that, in certain lesions of the renal pelvis when the relative flow of pus or urine through the ureters is of diagnostic importance, a special instrument for vaginal auscultation may prove to have a practical value.

Frictions of the second class occur normally only from the movements of the fœtus in utero. They are heard under more or less abnormal conditions in joints, at the line of fracture of bones, sometimes in tendon-sheathes—a case might be cited in which the long tendon of the biceps was involved—and in the true serous sacs, especially the pericardium and the pleuræ.

Widely different in principle from these local frictions, is the resonant thrill of an organ. The so-called muscular quality of the heart-sounds is due to such a vibration but, manifestly, it cannot be separated in practice from the tap of the valve-leaflets. Three methods are commonly used in the investigation of resonance; auscultation of voice sounds, in which we judge of the condition of the lung and pleura by the conduction of vibrations to the surface, percussion and palpation, by which last we seek to appreciate acoustic vibrations vicariously by the sense of touch. In ordinary percussion, also, tactile sensation is, with many persons, an aid to the appreciation of resonance. While the tyro or the clinician in his demonstrations to a class, aims merely to produce a sound and may prefer an artificial plexor and pleximeter, an experienced diagnostician,

*Being the Merritt H. Cash Prize Essay of the Medical Society of the State of New York, 1895.

making an examination for his own benefit, almost invariably uses his fingers and depends largely on tactile perception of the vibrations produced. Much may be learned in this way from a perfectly silent percussion.

It has been implied that sounds produced by throwing an organ into vibration are heard over the whole organ. This is true providing all parts of the organ have the same consistency, as in health, but in disease, some part of an organ may become so altered as to vibrate quite differently from the normal structures. Thus, in lobar pneumonia there is commonly dullness amounting sometimes to flatness, in the lower lobe of the right lung. The writer remembers a case of moderately severe catarrhal pneumonia, in which a zone of infiltration in the middle of the left lung posteriorly, was so sharply defined from resonant lung above and below as to suggest the possibility of a trilobate division. The significance of the words "anatomical or pathological unit" is now apparent. Except in the case of the lungs, disease rarely affects an organ in such a way as to cause one portion to vibrate differently from another; hence in the investigation of the heart, liver, spleen, stomach, intestine and bladder we expect to gain only such information as depends on the question of size—or, in the case of the hollow organs, fullness. A solid tumor of the stomach or bowel affords a marked contrast to the normal tympany, but only when of such size and location as to be quite readily palpable.

The ordinary observer, in the use of percussion, recognizes two degrees of resonance—pulmonary and gastro-intestinal or tympanitic; and two degrees of flatness, absolute flatness and dullness. Nicer discrimination may be made by an acute ear, as in the diagnosis of pulmonary cavities. The gastric tympany is usually about a semitone lower in pitch than that of the colon, while the tympany of the small intestine is still higher; pitch in general varying inversely as the calibre of the resonant body.

By ordinary percussion no distinction can be made between the resonance of the two lungs; hepatic, splenic and cardiac dullness are alike and, practically, it is usually impossible to mark the exact boundaries of the heart and the liver where they approach. Moreover, the overlapping of organs obscures diagnosis and, in particular, the right border of the heart cannot be defined by percussion except by an expert; while distended intestine may lead to the erroneous conclusion that the liver is contracted and splenic dullness may be altogether concealed.

The object of this paper is to call attention to methods of physical examination with which the majority of the profession are unfamiliar, and, for part of which, some originality is claimed. These methods all depend upon the same principle—the setting up of vibrations in an organ and, by excluding indirect conduction of sound, locating the boundaries of the organ by auscultation of its resonance. Perhaps a homely comparison will enable us better to appreciate the problem and the means of solution. Suppose one wishes to trace a system of pipes through a building. If the pipes are of different sizes or if they convey different fluids, for instance gas and water, ordinary percussion will elicit notes of so different quality that the matter is easy. If, however, the pipes are of the same size and filled with gas, no amount of percussion will afford an idea of their continuity unless we listen first at one pipe and then at another and note that, in one case, the sound of tapping is conducted directly to the ear while in another only a diffused noise is heard.

In the case of structures so close together as the viscera, we must limit the conductivity by some form of aural transmitter—of which the stethoscope is the commonest example—and it is this aid to percussion that has given rise to the term auscultatory percussion. The term is objectionable since *auscultatory* by no means implies the use of an instrument. Stethoscopic percussion would be a preferable term, although the language critic might object that a stethoscope is literally a *chest-looker*, while its use is not confined to the chest and it is only metaphorically a *looker*. Not to quibble over a question of nomenclature, it must be recognized that auscultatory or stethoscopic percussion is not merely ordinary percussion aided by an instrument. Ordinary percussion seeks to elicit a characteristic note whose pitch and quality shall enable us to distinguish one anatomical or pathological unit from another of different structure. In auscultatory percussion, on the other hand, almost no attention is paid

either to pitch or quality. We simply endeavor to locate the boundaries of an organ by noting when the sound of percussion becomes suddenly feeble. So long as both plexor and stethoscope are over the same organ, the sound conveyed to the ear is peculiarly sharp and penetrating. As soon as either passes the limits of the organ, the sound becomes dull and diffused. It makes no difference in tracing the pipes through a house, whether the listener is in the attic and the percussor in the cellar or vice-versa. Analogously, it matters not whether the stethoscope is moved or the tapping finger, except that, for the sake of convenience, the instrument is usually held stationary at about the center of the area to be defined. The exact point of application is not important, except that it should be somewhere within the area in which the organ to be investigated is in contact with the body-wall. These areas are easily found by ordinary percussion and they are described or illustrated in most anatomies and works on physical diagnosis. The best example of the radical difference between ordinary and auscultatory percussion is to be found in the examination of the lungs. The former method reveals no partition into two organs, except where the mediastinum widens out; the latter method draws the line as closely as nature herself.

The demonstrable (not the anatomical) cardiac area, as usually taught, is limited by the third rib, the nipple line and the right border of the sternum. The lower portion of the right boundary is obtained by drawing an imaginary line to the palpable apex. The examination to obtain these limits involves almost painfully hard percussion in order to strike below the superficial pulmonary resonance; it is, moreover, tedious and many physicians are unable to find the right limit of the heart. By auscultatory percussion almost the whole cardiac area may be mapped out, and it is nearly as easy to diagnose distension of the right side as outward enlargement of the left ventricle.

A graphic representation is not so important in the case of the thoracic organs as in that of the stomach and liver, since changes in the former are easily located by bony land-marks. Moreover, the diagnosis of pulmonary and cardiac disease does not depend so largely upon the determination of areas as it does in the case of the stomach and liver.

The spleen varies in size, even physiologically and temporarily. Some go so far as to say that the normal spleen is not percussible; others, while admitting that it has a definite area of dullness, confess that in many instances they can not locate it. From its position at the side of the body where the ribs have their greatest convexity and from its lack of definite shape, the graphic representation of the spleen on a plane surface is not especially important, yet an approximate estimation of its size is often of the highest value. Malaria, leucocythæmia, malignant lymphoma (Hodgkin's disease), carcinoma, almost all septic conditions of the intestine, various interferences with the portal circulation, infectious fevers, even without intestinal lesion, are among the causes of splenic enlargement. While in many such cases the finding of a large spleen is simply a verification of a diagnosis already well established, in other cases the condition of the spleen is of great importance. Those cases of hepatic cirrhosis without demonstrable change in the liver itself, are among the most puzzling which confront the physician, and the fact of splenic enlargement, not otherwise explained, throws light on the hepatic condition. Again, a case of deep tumor in the region of the left kidney may be cited. With splenic enlargement, some implication of the intestine or, possibly, carcinoma would be thought of. The spleen being of normal size, both these conditions were excluded and the probable diagnosis was made of renal sarcoma which is not prone to anastomosis. The diagnosis was confirmed by hæmaturia. Such cases illustrate the benefit of ausculatory percussion as a far more delicate means of investigation than ordinary percussion or palpation.

It is rather difficult to state exactly what the area of the stomach should be. It varies greatly within normal limits according to the time after eating and the amount of gas produced during digestion, while authorities differ as to its location when distended. Moreover, we can not expect to map out the most deeply seated parts of the organ, any more than to locate the summit of the dome of the liver, which rises at least a rib higher than even the heaviest percussion indicates. The

usual limits of the area of gastric resonance may be assigned as follows. A vertical line extending for an inch or more about the mid-point between the xiphoid and the umbilicus marks the right limit, although the organ itself extends further and a slight transgression of the resonant area is not sufficient to establish the diagnosis of dilatation. The lowest point of the stomach is about an inch, or an inch and a half above the level of the umbilicus and about half way between the median and the axillary line. The left curve varies greatly according to the degree of distension. The anatomies usually picture a thoroughly distended stomach whose extreme left limit is at the level of the seventh rib, touching the thoracic wall laterally, while the highest point of the curve is just inside the nipple in the fourth intercostal space. On percussion, these limits are seldom or never reached. Usually, in a stomach distended as much as possible without spontaneous relief of pressure through the œsophagus, the highest and extreme left points coincide, falling on the sixth or seventh rib and as far to the left as the thickness of the thoracic wall will allow. From this point, there is a sag downward and to the right. One would get the impression from the percussion area, that the cardiac opening of the stomach was at the highest left point; on the contrary, it is located posteriorly and only slightly to the left of the median line. The sag from the highest point, therefore, corresponds not only to the anatomical lesser curvature, but also to the upper part of the greater curvature. Owing to the different degrees of distention of the stomach, to the manner in which it touches the abdominal wall, to the weighing down of the lower part with food or liquid, and to the muscular tone which naturally tends to keep the organ somewhat contracted, the percussion area varies very greatly and it may be considered normal if it falls within the extreme limits mentioned.

The direction of the axis of the stomach is a matter of some dispute. Quain's anatomy represents a distended stomach whose axis is about 55° from horizontal. Luschka figures a stomach inclined at about 45° and passing an inch or more to the right of the median line. At autopsies a marked variation is seen. Since the term gastroptosis was first used, some controversy has arisen as to the normal direction of the stomach, some claiming that the axis of the organ is nearly horizontal, others that it deviates only 20° or 30° from the vertical. Speaking with a limited experience, the writer believes that, in short persons, the axis of the area of gastric resonance is considerably less than 45° from the horizontal, while tall, long-chested persons have a gastric axis with an inclination of 45° or more. This statement applies to clinical appearances and not to the findings at autopsies. It is uncommon to find a stomach that reaches more than a quarter of an inch to the right of the median line, while, without any marked dilatation, the greater curvature may sag as low as the umbilicus. This is especially true of flabby, atonic women who compress the waist with corsets. The whole question reminds one of the controversy among gynæcologists as to the normal position of the uterus. Certainly, the physiological deviations of a soft organ like the stomach are much greater than those of the small and rigid uterus.

The writer would like to call attention to a fact to which most text-books do not allude, namely, that the greater curvature of the stomach, as mapped out by percussion, is, in most instances not a simple convexity, there being usually a slight concavity in the middle of the curve, marking a tendency to the division of the organ into two digestive compartments.

The area of liver dullness begins, on deep percussion, at the fourth rib. The nipple is usually at this level but, not very rarely, it varies on one or both sides, even in men. In women with pendulous breasts it has no value as a land-mark. As the lung substance intervening between the liver and the chest-wall becomes thinner, dullness increases, until at the sixth rib in the nipple line, there is almost absolute flatness. The liver extends to the costal arch. Palpation usually reveals the left lobe of the liver in the epigastrium, but ordinary percussion and palpation afford only the vaguest notion of the contour of the organ. By auscultatory percussion, on the other hand, it is possible, in most cases, to map out practically the whole liver, and overlapping intestine does not materially obscure the findings, whereas with ordinary percussion, it may lead to a diagnosis of contracted liver.

When we remember that the physical

diagnosis of liver troubles depends almost entirely upon the determination of "back pressure" of blood, lymph and bile, and of the size of the organ, the value of even the slightest increase in our means of examination becomes apparent. The writer recalls a patient who had no ascites nor œdema, no hæmorrhoids nor other prominent veins, no jaundice and, for the time being, no disturbance of digestion, yet his liver was scarcely two inches in vertical diameter. Much doubt was felt as to whether the apparent contraction of the liver was not due, at least in part, to distended intestine in the right hypochondrium. Auscultatory percussion would have settled the question at one examination; without it, a positive diagnosis was not made except after several examinations and after securing some significant history.

By auscultatory percussion, the colon can be quite accurately distinguished from stomach and small intestine. The extreme length and complicated coiling of the small intestine prevent its resounding as an anatomical unit, so that auscultatory percussion is, in this case, of little value.

The examination of the pregnant uterus and of various large tumors of the pelvic organs is greatly facilitated by auscultatory percussion. It would seem that one with a gynæcological practice, might so perfect the art of external diagnosis that cœliotomies would not reveal so many totally unexpected conditions of the pelvic interior.

Under ordinary circcmstances, it would seem presumptuous to present an essay dealing largely with the general principles of a branch of medical art publicly reported more than half a century ago. Yet, unless recently, the majority of graduates in medicine have left college totally uninstructed in auscultatory percussion, and comparatively few physicians make practical use of it. Thus, one who wishes to become expert, must, as a rule, depend upon his own exertions, aided only by general directions to be found in a few text books and some articles on this neglected method buried in files of medical magazines. Under these circumstances, some explicit details of the technique of auscultatory percussion may be allowable. While the early authorities recommended a hard-wood monaural stethoscope, the writer believes that any form may be used, and that the binaural instrument is preferable, since it shuts out more completely extraneous sounds. No pleximeter is necessary, thus the physician, holding the stethoscope in one hand and tapping with a finger of the other, needs no assistant. The writer uses for all purposes a Camman chest-piece to which are fitted flexible rubber tubes terminating in hard rubber ear-pieces. This instrument has only two advantages over the ordinary Camman stethoscope; it is portable and, since the ear-pieces must be made to fit tightly into the meatus, it cannot usually be of service to any but the owner, so that the transmission of cerumen from one person to another is avoided. It is a physiological fact that a person accustomed to listening with both ears refers sounds heard with only one ear to the ear itself and thus, there being no distraction of attention to note the direction of the sound, its pitch is a little more sharply defined. Accordingly, the writer has devised a flexible monaural stethoscope which answers the purpose well if the opposite ear is stopped.

The writer would also report the following original methods of investigating visceral resonance. All are used in connection with a stethoscope and no new principles are involved. All are solutions, more or less perfect, of the problem to substitute for percussion a more convenient method of exciting visceral vibrations:

1. Instead of tapping, friction may be used to originate vibrations. The rubber tip of a pencil answers well, or even the end of a dermograph. The choice between friction and percussion depends largely on the sensations of the patient.

2. A tuning fork fitted into a hard rubber handle, is set into vibration and closely applied to the body wall. This method causes neither tenderness nor tickling, as percussion and friction, respectively, sometimes do, while it is even more delicate as a test. (See Chart 4).

3. The tuning fork has the disadvantage of vibrating only for a short time and the repeated snapping of the tines is rather tedious. In order to obtain a continuance of the vibration, a portable Faradic coil has been prepared, the hollow core serving to conduct the vibrations of sound to the body. Within certain limits, it is possible to guage the pitch of the hum-

ming note and, thus, to set up vibrations best adapted to the transmission of each particular organ. It will be understood that the coil is not used as an electrical instrument, the secondary wires being cut short.

On account of the trouble of carrying a battery and of keeping one in order, the writer has found the finger and the tuning fork to be the most convenient means of instituting resonant vibrations.

Contrary to what might be expected, the nature of the body-wall has very little influence on the conduction of vibrations. Thus, in moving the source of vibration —percussing finger, pencil, tuning fork or coil—along a rib, the sound diminishes when the limits of the organ are passed quite as suddenly as if the examination were made over the soft abdominal wall. So too, in passing from rib to intercostal space, the conductivity of the underlying organ is not affected. Although the deepest portions of organs can not be outlined, parts may be mapped that are certainly overlain to a moderate dephth by other viscera.

It is usually advisable to mark the limits of an organ with a dermograph. Tracings may then be made to preserve a record of the case. Photography would naturally suggest itself as a means of reproducing the outlines in their relation to superficial landmarks, but it is impracticable to have the necessary apparatus and assistants always at hand; many patients would object; the expense must be considered; and, most important of all, the lateral regions of the body would appear so foreshortened in a photograph as to give false notions of the actual areas, and it would be difficult to focus either to a life-size or to a uniform scale of reduction. The accompanying photograph is practically, a failure. The patients were boys about twelve years old, presenting symptoms of cardiac hypertrophy. Auscultatory percussion demonstrated that the condition was a neurosis, the cardiac area not being in the least enlarged.

THE TREATMENT OF DIPHTHERIA.

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The treatment of diphtheria by antitoxine may be the treatment of the future, but it will be a long time before the remote country doctor can always get the remedy when needed; meanwhile he must use what he can get.

Although no longer in active practice, I would like to recall attention to a plan of treatment which I made known in 1862, and which then raised a perfect cyclone of denunciation. One medical editor kindly hoped I would never get another diphtheria patient to treat; but if I did and it proved fatal, as was certain to be the case, I would be prosecuted, and he would cheerfully testify that I was guilty of murder. I did get a good many cases within the year, and when, in 1863, I made known the number of cases treated and the number of recoveries, old Professor D—— remarked, "Young man, it is evident you don't know diphtheria when you see it." Then I thought the old Nestor rather hard. But since we have imported the malignant bacillus, the benignant bacillus and that other little joker which breeds either way, or both ways, according to its own sweet will, I wonder if he always knows.

I saw diphtheria for the first time in 1858, and every case I had, saw or heard of, was fatal. Still I had learned something—mostly what not to do. In 1859, a case occurred close to my office, and having more time to dispose of than anything else, most of it was passed with my patient; and for her age (six years), she was an ideal patient. I had the satisfaction of seeing her convalescent, and thinking I had learned a great deal. I soon found that I knew more than I wanted to know—I had diphtheria myself. I called in my old preceptor and by his advice, treated the case on the same lines as the preceeding one. Believing it a local disease, and that the general system was

poisoned by absorption, I reasoned that three things should be attempted: prevent or limit absorption from the throat (belladonna); neutralize the poison at its place of origin (protiodide of mercury); eliminate it from the system (calomel).

Saturated solution Potass. chlorat.... q. s

Sig. Wash the mouth and throat with the solution, and then swallow a teaspoonful just before each dose of medicine.

Protiodide of mercury..... gr. s iij
Powdered white sugar..... ʒ iij

M. and divide into 24 powders.

Sig. One powder every 2 hours. Place in the mouth dry, and swallow slowly as dissolved. Allow no food nor drink under 15 minutes after taking.

Calomel..... gr. s xxjv
Ext belladonnæ..... ... gr. s vj

M., and ft. pil. 48.

Sig. Two pills every 2 hours, alternating with powders, until the bowel has moved twice; after which one pill at a dose. Omit occasionally if the bowel moves too often.

Continue this treatment until the throat is free from false membrane, and then give quinine and tincture of iron.

There is another drug of which I have always made much use, and which has prevented me having much experience with post-diphtheritic paralysis. Strychnine, given early and freely, will almost always prevent its occurrence. Alcohol is often recommended for its action on the heart. Belladonna is far preferable, but strychnine is the thing to tie to every time. Never give alcohol. It is an anesthetic to the higher nerve centers, whose sole superiority to other anesthetics consists in its more prolonged action. It is given, also, to retard tissue change. Now, in poison from snake-bite, if tissue change can be delayed a few hours the poison is eliminated and the patient recovers. If strychnine cannot be given hypodermically, alcohol is of use. If strychnine can be so given, it is infinitely better. But the elimination of the diphtheritic poison is not a question of a few hours, but of many days. I do not expect to live to see alcohol religiously excluded from use in diphtheria, but some of the young men now in the profession will see it.

I wish here to call attention to the *diphtheritic pulse*. It is almost, if not quite as characteristic of the disease as is the eruption of scarlet fever. Probably all who have treated diphtheria know the pulse of the later stage, which is caused by granulo-fatty degeneration of the heart muscle. But I refer to the pulse in the early stage, which is caused by the poison acting on the nerve centers, and if carefully compared, the pulses will be found quite different. A little consideration will show that this is necessarily so. As the disease progresses the original cause is still acting with a constantly increasing power, and in the later stage this is complicated with the action of a degenerated heart muscle. I do not know whether this pulse can always be detected before the appearance of the false membrane, or not. Most of my knowledge of the disease was acquired in country practice, where one is seldom called until the membrane can be seen. It was my practice when treating a case, to examine the throat and pulse of each member of the family daily, or oftener if possible, and I have found it twelve to twenty-four hours before the appearance of the membrane—occasionally in persons who claimed to feel perfectly well. During the later years of my practice, when I found a member of a family with this pulse, he was put on the diphtheria treatment, and often no membrane would form. In two or three days the pulse would lose its diphtheritic character and return to the normal, thereby proving to my satisfaction that it was caused by the poison acting on the nerve centers.

It is true that if alcohol is given when the heart is first affected, it apparently is of benefit. The pulse becomes lower and fuller, the surface cooler and the patient brighter. But this cooling, consequent upon the dilation of the cutaneous capillaries, must be made up by an increased expenditure of vital force. As alcohol retards the elimination of the poison, it is deleterious. The most convincing argument I can conceive for its use in the late stage is that, "the hair of the dog ought to be good for his bite." I have long and firmly believed that a large proportion of the diseased kidneys found by European observers at autopsies on those dead of diphtheria, was caused by alcohol.

It is well known that in this last stage, children bear a large amount of alcohol without intoxication, and some report with apparent satisfaction the quantities prescribed. In one case, "8 f ʒ of good brandy in twenty-four hours, to an eighteen months' old baby." At last accounts, the doctor was still cogitating whether that "good critter of God," *good old brandy*, could have had anything to do with the baby's death.

Thirty-six years are passed and I still

have a vivid recollection of the increased discomfort, and as I thought aggravation of symptoms, produced by cow's milk, when fighting diphtheria in my own person. So I never used it if it were possible to feed the patient on anything else. Keep him as near as possible on his usual ration of solid foods.

In treating many diseases it is not well to waken a sleeping patient to give medicine, but in this disease, until the throat is clean or rapidly clearing, it should be done if necessary; for the frequent repetition of the dose is of prime importance.

Of the hundreds of cases treated on this plan not one was salivated, nor did a case of kidney disease develop. If albumen appeared in the urine it was disregarded and soon disappeared without special treatment. I induced a few of my medical friends to adopt this plan, and none of them ever relinquished it except with life. True, like myself, they would try some so called scientific plan, and like me come to grief and return to the old plan. When the "bichloride" treatment became fashionable I took it up with a good deal of confidence and for a time was well pleased with it. True, my cases got well no quicker than usual, but they did well and it was scientific. At length diphtheria attacked a family of seven persons. Five of them yielded to the bichloride treatment, and two (a child of two years and its mother) seemed in a fair way to soon yield to the undertaker. The bichloride was stopped and they were subjected to my tried formulæ. In less than thirty-six hours no membrane was to be seen in either throat. That was my last experiment with new modes of treating diphtheria.

It was my custom to use chlorate of potash and tincture of iron as a prophylactic. As soon as a case occurred, the entire family used the gargle and took the iron and potash in sufficient water. It often happened that when diphtheria attacked one of several children living in a miner's cabin of one or two rooms, the thermometer constantly below zero, no other case would develop in that family.

It is, perhaps, needless to say that the dose of belladonna may require reduction; but it should be given in doses as large as can be born. If fed on solid food, most patients can take the protiodide in he doses recommended. If trouble occurs it often can be overcome by giving a little of the home-made extract of beef a few minutes before the medicine. When made in the old-fashioned way, by boiling the finely-cut beef in a tightly-corked bottle, it is for this purpose superior to any of the proprietary, trade-marked extracts. When preparing the powders for children, it is well to increase the proportion of sugar somewhat, as the protiodide is thus more certain to reach every part of the throat.

The test of a successful treatment can not be made by a few cases, nor in one or two years. From 1862 to 1867, not a single case that was treated on this plan for twenty-four hours with even a fair degree of regularity, was fatal. I felt a good deal like bragging, but determined to wait until 1869, which would give a trial of ten years. The fatalities of 1868 took all the conceit out of me. Yet, as I look back and find a mortality of less than 17 per cent. for that year, and take into consideration the ignorance and filth of a majority of the fatal cases, I do not think it a record of which one need be ashamed.

Migrain.

Migrain, according to Dr. J. H. Kellogg, in *Modern Medicine*, is due to a high degree of acid fermentation or an excessive quantity of mental chloro-organic compounds. In both conditions the stomach contains a vast quantity of toxic substances, which when absorbed into the blood, induce a veritable toxæmia and ntellectual activity, is an exciting cause of the disease, and through the fact that, by a morbid reflex action downard, it increases the hyperæsthetic conditions of the abdominal sympathetic, and at the same time retards the digestion, and so favors both the production of toxines, which are the direct cause of the disease, and the susceptibility of the sympathetic to the action of these poisonous substances.

Viewed from this standpoint, migrain is no longer a complex or mysterious malady, but simply a state of systematic poisoning, the origin of which is decomposition of food products in a dilated or prolapsed stomach, which, through motor insufficiency, is unable to unload itself of its contents with sufficient promptness to prevent septic and putrefying processes.

ACUTE CATARRH OF THE MIDDLE EAR OF AN EPIDEMIC CHARACTER.*

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This case is typical of a large experience we have had since the fore part of last January, with a certain disease that invades the nose, throat and ear. When you inspect this man's ear you will see a drum-head that presents the characteristic appearances in acute inflammation of the middle ear resulting from the epidemic influenza. These cases differ from the simple acute inflammations that occur in the intervals between the grip epidemics. The drum-head in this case has a peculiar mottled appearance due to extravasation of blood in patches, so that, instead of a turgid condition of the malleal plexus of vessels, a cherry-red color of Schrapnell's membrane, or a diffuse redness extending quite equally over all the membrane, we have ecchymoses in several parts of the drum-head.

The whole membrane is thickened, bulging with muco-serous effusion into the tympanic cavity and has a roughened, leathery appearance. The pain is intense, due to the tension upon the nerves distributed to the drum-head, and to the pressure of the secretions on the sensitive walls of the middle ear. You will observe that the patient winces when I draw upon the auricle to straighten the canal, or when I press upon the mastoid process.

There are symptoms of incipient mastoid periostitis—tenderness, redness and pain, but not, as yet, any appreciable swelling. At this stage the periostitis can be aborted, but we are not so sure that we can prevent suppuration in the middle ear. The probabilities are that we cannot, for middle-ear inflammation, as a complication of the epidemic influenza, is very prone to terminate in suppuration.

This man says he was taken with an attack of the grip five days ago, and that the ear began to pain him two days since. The mastoid pain came on last night, so you see we have an early opportunity to cut short the mastoid trouble. If there was no effusion into the middle ear and consequent bulging of the membrana tympani, we would rely upon warm instillations of twenty per cent. solution of cocaine, and leeching to relieve the pain and inflammation, but the condition present indicates a paracentesis, which I shall proceed to make in the posterior, inferior quadrant of the membrane, so as to give the most perfect drainage.

We will first use the cocaine, which will render the operation much less painful than it otherwise would be. Here we have an animal membrane with an alkaline fluid on one side, of greater density than the aqueous solution on the other, so that by the resulting endosmotic force the cocaine is brought into contact with the inner mucous coat of the drum-head. This fact explains why cocaine is much more effective in producing anæsthesia of the drum membrane in these cases than in those in which the tympanic cavity is in a dry stage of inflammation.

Now that we have opened the membrane, you will see that the discharge is quite copious. It consists of serum thickened with mucous and mixed with blood. Probably the drum-head would have ruptured spontaneously in a day or two if left alone, but we have afforded relief to the patient and insured an opening for the exit of discharges in the most advantageous location for free drainage.

We will use counter irritation to subdue the mastoid periostitis. The patient will be instructed to apply a mustard plaster to the skin surrounding the auricle, and to keep up a continuous irritation for two

* A clinical lecture delivered at the Post-Graduate Medical School and Hospital of Chicago.

† Professor of Diseases of the Nose, Throat and Ear in the Chicago Summer School of Medicine, etc.

days, but without blistering. We should take pains to give the minutest instructions in all details for home helps in the treatment of these people, otherwise we will not obtain the expected results. The most surprising mistakes occur unless we are patiently explicit in giving directions. For example: A worthy dame was told to procure a half dozen leeches for her husband, who was suffering severely, but through some oversight she was not definitely instructed in the art of applying them. At the following clinic, when asked if the leeches relieved her husband, she astonished the assembly by replying, "Sure doctor, but my man did not like them raw, so I fried them for him."

You will notice that this patient's general condition is bad. When he entered the clinic we observed that his countenence was pale, great drops of sweat stood on his brow, he was weak and shaky, his tongue was covered nearly to the border with a dirty gray fur. It was indented by the teeth, flabby and tremulous. He presented the appearance of a man who had been wrestling with a painful, exhausting disease that was getting the mastery of him; but we can confidently predict that the mastoid inflammation will be subdued within two or three days, and probably the ear will be restored to a good condition within as many weeks. Remember that the cure is not complete when the ear ceases to discharge. It must be treated after all discharges cease until it returns to a healthy condition. This is the point where many physicians and the laity generally commit a grave error. They imagine that the ear needs no care from the instant that they can see no discharge. They discontinue treatment there and abandon a diseased ear to its unhappy fate. Then they marvel that the hearing fails and that each succeeding cold in the head leaves them worse off than they were before.

The general condition of this man needs attention. He is constipated and worn with harassing pain. We will give him a small cathartic dose of calomel to-night and follow it with an effervescing saline laxative in the morning—flush the sewer. We will give him for the pain one-eighth of a grain of morphia combined with one-four-hundredth of a grain of atropia. For loss of strength and appetite he will have two grains of quinine with a tablespoonful of coca wine (Vin Mariani), four times a day. If the quinine produces any subjective noises, sensation of stuffiness in the ears or impaired hearing, it will be discontinued, and strychnine, digitalis and iron substituted.

During the epidemics of influenza I have observed that the aural complications usually appear about the fifth day after the seizure. The pain is intense and exhausting. The effusion of serum occurs sometimes in a few hours after the pain comes on, within twelve or twenty-four hours. In children the first symptom that attracts attention is worrying or crying, pressing the ear against the mother or nurse, or carrying the hand frequently to the ear, followed shortly by a watery and bloody flux from the ear. Usually the discharge commences within forty-eight hours of the beginning of the earache. The proportion of cases in which there is a mastoid involvement is vastly larger than in simple acute otitis media occurring in the intervals between the epidemics. The tendency to suppuration is far greater than in the intervals. The constitutional disturbance is more profound and the disease is less easily controlled. General treatment is quite as important as special. Antipyrine, phenacetine or guaiacol may be indispensable to reduce temperature. Rest should be enjoined and the surface temperature should be kept equable by confining the patient to the bed for a few days. Relapses are more likely than at other seasons, and the patient should not be discharged as cured in less than a week after all symptoms have disappeared.

For home treatment we will instruct this man to syringe his ear, whenever it fills with discharge, with a quart of water as warm as can be comfortably borne, but it must have been previously boiled for a half hour in order to sterilize it. Then he will instill into the ear a warm saturated solution of boracic acid in rose water. Some one suggests that an alcoholic solution be used. I have seen it tried, but I have not the temerity to experiment with alcohol in an acute inflammation of the eye or ear. The solution will be left in the ear while he lies on the opposite side for ten minutes, then allowed to run out and a small piece of absorbent cotton will

be lightly introduced into the mouth of the canal to protect the drum from cold air and foreign matters. For his naso-pharyngeal catarrh he will spray his nose and throat every morning and night with a three per cent. solution of camphor-menthol in lavoline.

The subsequent treatment to be pursued in our clinics to complete the cure will form the topic of another lecture.

ACROMEGALY.

E. L. BULLARD, M.D., WAUKESHA, WIS.

In 1885, during his term as chief assistant to Charcot, Pierre Marie observed in the clinics of the former, two unique cases characterized chiefly by an enormous development of the hands, the feet and the chin. The following year, in the *Revue de Medicine*, he wrote an exhaustive description of these remarkable dystrophies and designated this disease, which had hitherto been unrecognized as a distinct pathological entity though its characteristic symptoms had been noted by Sancerotti as early as 1772, Acromegaly. Von Recklinghausen prefers the name Pachyacria as being etymologically more accurately descriptive; and in accordance with a custom which has the sanction of long usage, this affection has also been named after its discoverer, Marie's Disease. After the attention of the medical world had thus been directed to this interesting malady, other cases were reported by various authors, chiefly European, and up to the present time, according to Osborn, (from whose article in the *Reference Handbook of the Medical Sciences* I have made copious extracts in this paper) about one hundred cases have been recorded. Among this number, however, there were several cases concerning which the diagnosis was not well established, this disease having been confounded, in many instances, with gigantism, myxœdema, exophthalmic goitre, etc.; and, per contra, numerous cases described under the latter heads were undoubtedly true cases of acromegaly.

One who has seen a well-marked case of this disease will never forget it. The subject is bulky and his appearance suggests physical inertia and mental hebetude; he is humpbacked, the movements are slow and cumbersome, and the expression of the face, which is enormously enlarged, is not suggestive of too much intelligence; the forehead is low and retreating, the nose of more than ample proportions, the lower lip thickened and everted, and the lower jaw elongated out of all proportion to the other features, producing a most remarkable physiognomy. The *tout ensemble* suggests a reversion toward the original type of being.

The disease, in the vast majority of instances, is one of adult life, being commonest between the fourth and fifth decades. Two recorded cases have been congenital and two have occurred between the ages of ten and twenty. It affects both sexes in about equal numbers, being slightly more prevalent in females. The onset is insidious and the course pre-eminently chronic. There is diminution of sexual desire which may even reach complete abolition, and in women the menopause is one of the earliest and most frequent symptoms. Cephalalgia, usually referable to the vertex or frontal region, and of ever varying intensity from a slight feeling of discomfort to the most agonizing pain, is a very constant symptom. Pain in the affected joints is also common. Vaso-motor disturbances causing local paleness and flushings, senations of numbness, formication and hyperesthesia of the affected parts are not uncommon. The reflexes are present. The mental faculties are ordinarily unimpaired, but loss of

memory and dullness of perception are not of infrequent occurrence. In some cases there is great somnolency. The enlargement affects alike the bones, the cartilages and the soft parts, and in each instance is a true hypertrophy. The skin is apt to be flabby and of a brownish olive color, particularly about the face. In some patients, together with the subcutaneous tissue it is greatly thickened over the affected parts. Hyperhidrosis, either local or general, is frequent. The hair is coarse and abundant, and is notably increased on the body and extremities.

Taking up *seriatim* the various regions of the body, we find that the bones of the cranium participate but slightly in the enlargement, but there is apt to be some thickening at the sutures, the ridges and protuberances or muscular attachments. The forehead is usually low and retreating, the superciliary ridges prominent from enlargement of the frontal sinuses, the eyebrows heavy. The eyes are prominent, due not only to an enlargement of the eyeballs but also to an abnormal deposition of bone in the orbits. The integument covering the palpebræ is deeply pigmented and their cartilages sometimes enlarged. Progressive loss of sight occurs in more than half the cases, which is due, according to Marie, to pressure upon the optic chiasm by the enlarged pituitary body. It would seem equally as probable that this condition might also be due to bony pressure upon the optic nerves where they emerge through the optic foramen.

The cheek bones are prominent, owing to a dilatation of the antrum of Highmore on either side. The nose is enlarged in all directions and may be prodigious. The upper lip may or may not be enlarged, but the lower lip is enormously thickened, everted and protuberant. The inferior maxilla is massive and while the rami may increase to such an extent as to force outward the lower part of the external ear (which appendage is also usually enlarged), the principal enlargement is in the body of this bone, the alveolar border and symphysis of which are very prominent. Prognathism is marked and is rarely ever absent. The increased growth of the alveolar border is not participated in by the teeth, and they are consequently widely separated and often fall out The angle of junction between the body and rami becomes obtuse as in old age. Owing to the extreme projection of the chin, the facial angle approaches that of the Simian family. The contour of the face is elliptical.

The thorax is greatly enlarged in its antero-posterior diameter and is flattened laterally. Cervico-dorsal kyphosis is rarely ever absent if the disease is sufficiently advanced, and there may be compensatory lordosis. Sometimes, though rarely, scoliosis is observed. Kyphosis is due to a thickening of the bodies of the vertebræ and of the intervertebral substance. The neck is short and thickened and the chin approximates the sternum. The extremities of the clavicles are enlarged. The ribs are wider, thicker and more oblique than normal, and their cartilages are enlarged and more or less ossified. The sternum is widened and thickened, and the xiphoid appendix is unusually prominent.

There is enlargement of the pelvic bones, especially at the pubic symphysis and at the crests of the ilii.

The arm bones are not affected, but the lower ends of the radius and ulna are enlarged. All of the bones and soft parts of the hands are increased in size, and the hypothenar eminence is unusually prominent.

The femur is enlarged at the condyles; the patella is also enlarged. The malleoli are generally increased in size together with all of the bones and soft parts of the foot. The great toe is especially prominent, and the os calcis is enlarged out of proportion to the other pedal bones, giving the heel a decidedly African appearance.

The muscles are generally flaccid, and a condition of progressive weakness is the rule, though in some cases there has been an increase of strength at the beginning. The tongue is uniformly enlarged and the soft palate and uvula may be. Articulation is laborious and the voice guttural. Polyphagia and polydipsia are usual. The bowels are ordinarily constipated. Diabetes and albuminuria are not infrequently associated with this disorder.

The pathology of this disease is not well understood. Marie says that the ganglia and the cord of the sympathetic are enlarged and thickened, and there is frequently enlargement of the hypophysis cerebri, but as the functions of this body

are yet unknown, we are still left in the dark.

It is only in the early stages of this disease that there can be much difficulty in its diagnosis, for, later, characteristic landmarks are so clear that literally "he who runs may read," Marie having diagnosed a case while walking on the streets of Paris. The affections with which it is most liable to be confused are gigantism, myxœdema, leontiasis ossea, the osteitis deformans of Paget, and elephantiasis. In gigantism the extremities are proportionate with the stature, the face is not elongated, prognathism does not exist, and the general symptoms of acromegaly are absent. In myxœdema the soft parts are alone affected and the face, according to Sir William Gull, is "like a full moon." In leontiasis ossea there are bony tumors of the face and cranium, but there is nothing unusual about the hands and feet. In the osteitis deformans of Paget, the cranial bones are enlarged, and if the facial bones are affected it is only in a slight degree; the face is triangular with the base upward, the long bones are principally affected and show a tendency toward abnormal curvatures. It usually occurs after the age of fifty. In acromegaly the facial bones are affected primarily, and if the cranial bones are involved it is to but a slight degree; the face is elliptical; the hands and feet are of unusual size, and the long bones scarcely at all affected. It usually occurs before the age of fifty. Elephantiasis is a disease of the skin and subcutaneous tissues; it seldom affects the face and upper extremities; it is frequently unilateral and the bones are never affected.

The duration of acromegaly is twenty to thirty years or longer, and if the patient is not carried off by some intercurrent affection, death is due to exhaustion.

The treatment should be directed toward the alleviation of the symptoms as they arise.

The foregoing article describes pretty accurately the very typical case which I had the pleasure of presenting to the society by the courtesy of my friend, Dr. J. A. Rice, of Merton, in whose practice it occurred.

The patient, Mrs. F., is an American woman of English parentage; fifty-one years of age; married and has had two children, the youngest of whom is nineteen. The family history is excellent, her father and mother both having attained an old age. She has had seven brothers and four sisters, all of whom, except two, are living and in good health. One sister died of consumption, and a brother of "dropsy." She always had a strong constitution, and up to the time of her last confinement had never been sick. This last labor was protracted and severe, and she dates her trouble from that time. Menstruation never returned, and it was not long before tachycardia, the enlarged thyroid, prominent eyeballs and other symptoms of exophthalmic goitre appeared. Dr. Rice tells me that at no examination during the last fifteen years has the pulse been less than 120 per minute. The enlargement of the hands, feet, nose and chin, began about ten years ago and has steadily increased. Headache has been a prominent symptom.

This case presents the usual well-marked characteristics of acromegaly. The ears, nose, lower lip, tongue, inferior maxilla, hands, feet, clavicles, ribs, sternum, patellæ, and pelvic bones are enlarged. There is prognathism to the extent of about one-half inch. The neck is short and thickened; the thyroid gland is enlarged and cartilaginous, the right side thereof being the larger of the two. There is pulsation in the veins of the neck; cervico-dorsal kyphosis is marked and increasing. Her former weight was 127 pounds; it is now 214. Her height is 5 feet, and the length of the foot (which ordinarily bears the relation to the height of one to six) is 11 inches, or one to five and one-half. There is impairment of sight, but the eyeballs are not as prominent as they were several years ago. The eyes are surrounded by a pigmented areola which varies in intensity. The mental faculties are little, if any, impaired, but the memory is poor. Polyphagia and polydipsia are present. There is hyperhidrosis. Saccharine urine and albuminuria have at times been observed, and there has been considerable edema of the feet at different times. The voice is masculine.

A comparison of a picture representing her present condition with a daguerreotype taken some twenty-five years ago, illustrates better than any description I can give the changes which this disease has wrought.

COMMUNICATIONS.

BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

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At the present time bacteriology offers practicable methods of diagnosis in three diseases, viz.: pulmonary tuberculosis, diphtheria and cholera. Apart from these the difficulty or duration of the methods, or the slight value of negative results, is a serious practical obstacle. In the case of tuberculosis the diagnosis may be made by any one with a suitable microscope on account of the striking color reaction. In the other two diseases mentioned more laboratory apparatus is required; and these organisms are not readily identified except by persons who have more skill and experience in such matters than will ever be possessed by the average physician. These conditions are met, so far as diphtheria is concerned, by what is generally known all over the world as the American or New York system, by which the health authorities furnish gratuitous bacteriological examination.

What is known as the diphtheria or Klebs-Lœffler bacillus was first described somewhat imperfectly by Klebs in 1883. In 1884 it was re-discovered by Lœffler, the essential results of whose work have remained unchanged by all subsequent investigation. Lœffler showed that it was a pathogenic microbe capable of producing death in animals by infection. On the other hand, he did not venture to consider it the specific cause of diphtheria, mainly because he did not succeed in finding it in all cases examined. On this account it attracted but little attention in the following four years. In 1888 Roux and Yersin made the all-important discovery that the Klebs-Lœffler bacillus, when grown in cultures outside of the body, is capable of producing a poisonous substance which is capable not only of killing animals in very small doses, but also produces paralysis in those which live long enough to acquire it. The complement of this discovery was Sidney Martin's announcement in 1892 of a similar toxic substance which was extracted from the membrane of actual cases.

Zarniko* said that in 1890 the Klebs-Lœffler bacillus had been found in two hundred and forty-nine cases and was absent but twice; while in nearly all cases it had been sought in vain in healthy people.

In 1890 Baginsky began to employ the bacterial diagnosis of diphtheria in the recently-opened pavilion for that disease in the Emperor and Empress Frederick Children's Hospital in Berlin. A similar course was adopted by Roux in Paris at the Enfants Malades. This system has been carried out more or less thoroughly in the hospitals abroad since the last mentioned date, and has also been made use of by private practitioners. Finally the provision made by great cities for the diagnosis of all cases within their limits has enormously extended the range of available experience.

It is evident from this historical sketch that our present knowledge of the Klebs-Lœffler bacillus rests on a very broad basis involving many thousand cases examined in several different years and places, and by many different observers.

That the Klebs-Lœffler bacillus is the specific agent of infection is not universally conceded. As far as known to the writer, the denials come mainly from those who are distinctively pathological anatomists, and who show a very evident disinclination to see the basis of the classification of disease change from the anatomy of the lesions, on which, by virtue of their labors, our present system rests. Indeed, one might say now that bacteriology has reached that material stage of success which is manifested by endowed and subventioned institutions and a hierarchy of teachers from Koch and Pasteur down to propagate it, that the pathological anatomists are rousing from their lethargy and preparing to make one last united charge before it becomes too late.

*Berl. Klin. Wochenschrift. 1892, p. 203.

When Koch laid down his first principle, that the specific ineffective agent must in all cases be found in the characteristic lesions of the disease, he evidently accepted the distinction of the pathological anatomists and clinicians as finalities—at least so far as transmissible diseases are concerned; for if more than one infecting agent can produce like lesions and symptoms; or, on the other hand, if the same infecting agent can produce lesions with different characters in different cases, Koch's first canon would be of slight value in establishing the relation of parasite to disease. It was a fortunate circumstance for bacteriology that the outlines of the various morbid entities were laid down with a great deal of correctness before its birth. Otherwise, to define a disease as the morbid process associated with a given micro-organism, and then to attribute the disease to that organism because it was always found associated with it, would have had very much the appearance of begging the question.

In the early part of this century diseases were simply congeries of symptoms. Dropsy, for example, was regarded as a disease in itself, and not a symptom—or, at least as a consequence of a disease having its actual seat in the heart of the kidney, and the like. The classification on a purely symptomatic basis was necessary at a time when pathological anatomy was unknown. Yet when the pathologists began to distinguish by the difference in the morbid anatomy, what had long been regarded as one disease, many clinicians still refused to accept the new classification. Thus a typhlitis and empyema were regarded as the same disease. Another example is typhus and typhoid fever. As late as 1850, a distinguished clinician of London gave it as his opinion that there was no valid distinction to be made between cases of low fever with intestinal ulceration and those without. The question at issue between the pathological anatomists and the bacteriologists is simply whether all persons having their tissues damaged by the invasion of the same specific infecting agent, no matter what form the damage may assume, are to be considered as having the same disease; or whether only those in which the damage assumes the same anatomical form?

There is but one decisive source of evidence to settle this question which is independent to bacteriological observation. This is the filiation of the successive cases in an epidemic. Epidemiology has shown us the distinctions which have a sound basis even where the morbid anatomy is not decisive. If we can be certain that a catarrhal pharyngitis has caused a diphtheritic angina, we are bound to assume that the two are of the same character, as we are bound to consider parents and their offspring of the same species. The history of epidemics makes the distinctions evident where clinical and anatomical evidence leaves us in the lurch. Thus when influenza is epidemic, who is a sufficiently skilled diagnostician to distinguish between these cases and those suffering from colds and the like? The same thing may be said of cholera nostras and even simple diarrhœa during epidemics of Asiatic cholera. The validity of the distinction between typhus and typhoid fever was largely made evident by the fact that typhus fever was not epidemic in all cities in which typhoid fever was epidemic. We are all familiar with the role played by American physicians who studied these diseases in both London and Paris as well as at home.

In the struggle the clincians were so completely vanquished by the pathological anatomists that the former have busied themselves with discovering the clinical signs of diseases as classified by pathological research; and, as the result, we are now able to distinguish many forms of disease which were once confused. It is not unnatural, therefore, that the anatomists are disconcerted to find that their victory has only brought them new antagonists; nor is it remarkable that the struggle should be brought to a focus in diphtheria, in which a well marked pathological lesion, owing to its conspicious seat, is itself the most important clinical sign.

While the lesser lights are pugnacious, however, the master himself has very clearly recognized the weakness of a strictly anatomical classification.* Virchow has said plainly that "Etiological unity does not follow from correspondence of anatomical lesions." The same pathological process is found in other mucous membranes as in diphtheritic infection of the pharynx; thus in the rectum, in dysentery; on all

* Berl. Klin. w. 92 p. 231 ff. Berl. Med. Soc.

possible mucous membranes, in cholera, as in the pelvis of the kidney, and in the gall bladder. Pseudo-membranous destruction of the epithelium of the colon may be the result of corrosive sublimate poisoning as well as of dysentery. In each case the lesion is of the same anatomical character as in diphtheria of the air passages. "Now," says Virchow, "since we know that whatever may be the true cause of dysentery it is certain that it is not caused by corrosive sublimate, we are bound to recognize that identical lesions may be produced in the same organ by causes as distinct from each other as corrosive sublimate and the cause of dysentery."

None the less, pathological anatomy is always of importance. A diphtheritic inflammation everywhere means a necrosis of the mucosa to a greater or less depth, whether it be due to the infection of diphtheria, cholera or dysentery, or to poisoning by corrosive sublimate; and in consequence this form of inflammation is followed by an ulcerative process. Again, the locality is of consequence. Thus, as Virchow says, to say that the patient is suffering from corrosive sublimate poisoning is not the same as to say that he has a pseudo-membranous colitis, for he may be free of this and be suffering from a nephritis.

The fact that Klebs-Lœffler bacilli are not always to be found in the false membranes of the air passages does not in the least disprove the claim that it is the specific cause of those in which it is present. Those who attack it on this ground are unconsciously assuming as an axiom, that all diseases of the pharynx in which there is a necrosis of the mucosa with the formation of a false membrane are necessarily due to the same infection. We have just seen that this, so far from being a basis of argument, is a contestable hypothesis which ought first to be proved.

In laying down the principle that the suspected microbes must be constantly found at the site of at least the early lesions of the disease, and absent in normal conditions, it is not to be understood that the mere presence on the tissues and not in them is evidence that they are of innocent character. With due allowance for the incubation and convalescent stages, their presence without lesions shows of course that the same organs in different persons are not susceptible to attack by them. When Koch, after nearly a hundred post-mortems of fatal cholera cases, found that an organism new to him was in the van of all other's in the mucosa of the intestine, he naturally assumed that he had discovered the cause of this disease.

This brings us to the consideration of the fact that the Klebs-Lœffler bacillus is found in healthy throats. If persons not known to have been associated in any way with diphtheria cases are made the subjects of examination, the number in whom this organism is found is really very few. Thus in New York three hundred such examinations were made with only eight positive results, of whom two afterward developed diphtheria. Inasmuch as diseases are generally acquired in trivial acts which do not arrest the attention, and no one in a crowded city where the contagious disease is endemic can actually be certain that he has escaped all possibility of contagion mediate or immediate, these "diphtheria healthy" persons justify no further conclusion than that some persons are insusceptible to the germs.

On the other hand if children who are actually exposed are the subjects of examination, the bacillus is much more commonly present. It is quite probable that if the methods of examination were capable of demonstrating the presence of the germs when they were few in number, and the examinations were made daily, that the percentage in exposed persons who remain well, would be very large. The situation is the same in the case of cholera. Koch has pointed out that this fact does not disprove this specific character of the comma-bacillus because it is never found in healthy persons in regions from which cholera is certainly absent.

It will be of interest to consider whether in accordance with our epidemiological knowledge of diphtheria this fact is what must be expected of the infective agent or not. In the case of measles we do not assume that a child previously attacked, who escapes contagion in a household epidemic, has by chance not really been exposed like the others. On the contrary we say that he is immune to measles because we believe that he has been exposed. Yet no one has been exposed until he has actually received the morbid matter, whatever it may be, and no one can be said to be immune whose tissues have not proved

themselves actually hostile to the invasion by repelling an attack on their surfaces. No one would consider that a microbe was definitely proved not to be the cause of measles because it was found on the mucous surfaces of immune persons. On the other hand those who are most inclined to claim everything for predisposition to an infective disease, are at least inclined to take into account the degree of natural immunity that can actually be shown to exist by other than bacteriological methods.

In measles we find that the malady seizes on nearly every child within reach, and nearly at the same time, except of course those who are immune by virtue of a previous attack. At the close of the incubation period, after the first child has acquired the disease, it breaks out as an explosion among the others. These well-known facts show that there is neither a permanent nor temporary natural immunity to measles except in an exceedingly small fraction of the population. It is almost entirely a question of the transmission of the contagious matter, and very little a question of the condition of the tissues upon which it was received. The future discoverer of the specific germ of measles will be under the necessity of showing not only that the accused organism is present in those who suffer, but that it is all but absolutely absent in those who do not have and never have had measles.

If we compare diphtheria to measles, it is immediately evident that the conditions of conveying the disease directly, so far as mere transmission of the contagious substance is concerned, is nearly the same. The same excretions are contagious in each case, and the sick are of the same age with the same habits. Doubtless the duration of the danger is longer in diphtheria, while the transmission may be favored by the fact that cases of measles are less confined. Fluegge has recently published an account of the epidemic of diphtheria in Breslau in the five consecutive years ending in 1890. There were 6,349 cases reported. Yet the houses, and still more the families, in which there was more than a single case were exceptional. On the other hand, in the fifty houses where there were the greatest number of cases, with three exceptions, the cases were not simultaneous, but followed in a chain of single cases at intervals of a few weeks, exceptionally of six or seven months. The mode of spread was thus entirely different from that of measles, and this difference can only be accounted for on the supposition that temporary and permanent natural insusceptibility is very common in the case of diphtheria, and very uncommon in the case of measles.* How many persons are naturally insusceptible cannot be arrived at with exactness. In the five years studied by Fluegge the proportion attacked yearly is given in comparison with the population living at the same ages. After twenty similar years one-fifth of the population attaining the age to twenty would have had the disease. On the one hand diphtheria was more than usually prevalent during the period under consideration; on the other hand it cannot be assumed that all children were exposed.

Enough has been said to show that in diphtheria something more is evolved than contamination of the pharyngeal surfaces with the virus of diphtheria in the transmission of this disease, and that this something is a condition of the tissues which only exists simultaneously in a few persons, and probably never exists in some.

The facts of diphtheria epidemics are sufficient to show that we must expect to find at times the germ of the disease unassociated with lesions of any sort in persons who have been directly or indirectly exposed to the disease, but do not acquire it.

These questions have been gone into at some length in part because they deal with the objections which are commonly made against the dominant bacteriological theory of diphtheria, and still more because they bring out the difference which may be expected to exist between the bacteriological and clinical diagnosis of diphtheria. Those who call bacteriology to their aid must expect to find on the one hand that some of their white anginas—to use a Gallic expression—are not diphtheria; and again other cases in which a definite membrane does not exist in any stage of the disease, will be shown to be diphtheria, and however mild themselves, will endanger all around them. Even purely catarrhal pharyngitis will be found to be diphtheria, since we mean by this term, not a

*Fluegge, Ztsch. Hyg. Vol. I, 3, p. 401.

definite pathological process, but the whole series and variety of pathological changes which the Klebs-Lœffler bacillus can initiate in mucous membranes and elsewhere. According to Ritter, indeed, this bacillus always exists in Bretonneau diphtheria. In over three hundred cases examined by him the bacillus was found absent in so few that he prefers to believe that in these few cases the organism was really present, but was not found on account of some defect in the technique. Unfortunately, in the publications seen by the writer, Ritter does not define with exactness what he means by Bretonneau diphtheria. The work of other observers has shown very decisively that a distinct membrane frequently exists without the presence of the bacilli.

It may be asked, if the bacillus may be present or absent in cases which are clinically diphtheria, what is the importance of the examination. When the clinicians had to accept the distinctions of pathological anatomy and epidemiology, they naturally went to work to discover the clinical signs which corresponded to the various pathological conditions. Precisely the same work is now going forward in ascertaining the clinical facts which correspond to bacteriological distinctions. Much of this may be left unnoticed as too recent, but some of the results are well ascertained.

While there have always been found a considerable proportion of mild cases among those characterized by the Klebs-Lœffler bacillus, yet nearly all the fatal cases of pseudo-membranous disease of the pharynx contain it.

In 1892* Baginsky reported the results of the bacteriological diagnosis in 154 persons who had been sent to his hospital as cases of diphtheria. Of these, 118 showed the presence of the Klebs-Lœffler bacillus; in 36 it was absent. Of 118, 45 died, or 38.19 per cent. Of the 36 who lacked this microbe, 4 died, or 11 per cent. Of these four, however, one was brought to the hospital with severe diphtheritic paralysis and died in consequence. Another was complicated with severe measles, and died of an extensive pneumonia. The other two died of double empyema. The remaining thirty-four cases went on to recovery without any complication in a short time. A similar difference in the case of mortality has been noted by many subsequent observers.

Thus Chaillou and Martin,* in ninety-nine cases sent to the diphtheria wards of the Hospital des Enfants Malades, Paris, found twenty-nine free of the bacillus, none of whom died. In the remaining seventy there were twenty-eight deaths. In general it may be said that the white anginas, due to other causes, offer about the same danger to life as measles.

As a rule the course is shorter; and while the symptoms are sometimes threatening at first, there is usually a rapid improvement and the duration only occasionally reaches eight or ten days.

Martin and Chaillou attempt to discover what clinical distinctions vary with other pathogenic germs present, both when associated with the Klebs-Lœffler bacillus and when it is absent. They are in accord with nearly all who have studied the question in ascribing a particular severity to the class of cases in which streptococci are associated with Klebs-Lœffler bacilli.

Finally the ancient struggle over the distinction between croup and diphtheria deserves mention. The bacteriologists have shown that the same distinctions divide this disease as the anginas. In ninety-nine cases of croup studied by Martin and Chaillou, twenty-eight showed no membrane in the throat. Seven of these lacked the diphtheria bacillus. In twenty-one they were present. In the seven cases there was one death. In the twenty-one there were ten deaths. In addition there were seven cases with three deaths in which diphtheria bacilli were not discovered until after tracheotomy had been performed, and it was believed by the authors that this was the result of infection in the hospital wards. Finally it may be added that the Klebs-Lœffler bacillus was found in 80 per cent. of the cases diagnosed croup in New York.

* Berl. Klin. Wochensch., 1892, p. 184.

* Annals de l'Institut Pasteur, 1894, p. 450.

Do Not Prescribe Alcohol.

Physicians, as an educated and enlightened body of men, should never recommend alcohol unless absolutely necessary. They should endeavor to imbue the masses of mankind with the thorough understanding of the mental havoc and physical destruction wrought by this terrible agent.

SHOULD THE CARDIOPATH MARRY?

W. T. ENGLISH, M.D., PITTSBURG, PA.

Intimately associated with the physiological and pathological phases of this inquiry are those of a sentimental and ethical nature. While a brief study of the phenomena attending gestation under physiological conditions of the circulatory apparatus, and a comparison with the pathological modifications in the cardiopath, will subserve the paramount object of this paper, some other considerations are inseparably connected with a discussion of the subject. To the noblest and best woman there is something inestimable and beyond comparison on earth to the full, wide, spiritual mission of motherhood. Marriage is the only plane in which she can expect to attain the goal of all that is worldly and unwordly, and where she may acquaint herself with the mighty mystery which is the portal of the race.

This innate desire for motherhood must not be thoughtlessly denied. Especially is it desirable that we consider well any proscription that may give excuse to those who shirk maternal obligations. Many a strong woman of to-day prefers to storm the hitherto man-garrisoned citadels, instead of entering the holy-of-holies of wholesome motherhood, for which nature has so loftily endowed her. Her dreams of home are yielding to lucid and verbose novels descriptive of neurotic frenzies and masculine decadence. Even her pen touches the pages with theoretic knowledge of heredity, pathology and diseased babies. But while the avenues of commercial and literary competition are choking, the holy realm of childbirth is left to those who are not always physically competent.

From whatsoever reason women miss their obvious destiny they are, from Nature's point of view, failures. No single life can be a perfect life. On the other hand no greater selfishness can be imagined than that which brings children into the world doomed to death, or to a life of immitigable misery. Each child has a right to know the life into which he is to be born. No human should have his pre-natal interests so far forgotten in this 19th century that we shall be forced to fight a losing battle against disease and death. Morbid courtships and hectic marriages belong to the time that is past. Physical considerations must, then, have somewhat to do with marriages and child-bearing. The social plane in which the prospective progenitor moves may have an important bearing, and even sentiment be of utility, when we attempt to answer the query: "Should the cardiopath marry?"

Every physician knows the intimate association the womanly functions have with the circulatory apparatus, and the direct influence upon the heart demeanor of the disturbance of the menstrual flow. On the very threshold of conception there are evidences of perturbation as exemplified in palpitation, irregular rhythm of the heart, and respiratory limitations. As each month wheels its round, we watch with interest the increasing stress under which the heart labors, that it may hide its expenditure of energy on behalf of the developing fœtus from the various organs which have hitherto had sole claim upon its efficiency. Now it conceals unrest by an appeal to the vaso-motor center in the medulla, and anon it quiets a threatened tumult by recourse to its accelerator or inhibitory connections with the vagus and sympathetic supplies; holding in reserve for a more final appeal, its own ideo-motor capacities, controlled by intrinsic plexuses and ganglia. Meanwhile some rebellious organ, as the stomach, adds to the difficulties by mechanical, physiological or pathological mal-behavior. Even while these efforts are expended to control violations of cardiac calm, there is developing in the uterus, and its expanding vessels, an ever-widening circulatory area, over which the belabored heart must propel the blood; and, in consequence of the augmented volume of the circulating fluid, it is required to pump more blood in a given time. The task increases as gestation progresses, not only because of the additional labor, but also on account of the

perverted and weakened quality of the blood. The response to the demand for enlarged propulsive power is an hypertrophy of the left ventricle. The auditory evidences of these changes in the organ and the blood, are in the increased heart-sounds and murmurs at the cardiac base. Plethora exists as to quantity and anæmia as to quality. Pregnancy thus inaugurates heart injury that ultimates in degenerative changes which may continue to a fatal termination.

In the circulation of the pregnant woman there is need for extensive resiliency, and nature grants a capacity for tolerance of gastric caprice, renal aberrations, blood changes, respiratory embarrassment, neurosal deviations and varied psychoses. In the presence of the morbid heart, any one of these manifestations is liable to pass beyond the line of the physiological. Dangerous symptoms are extremely apt to arise when there is such a wide range in the vascular tonicity as is present where the heart is incapable or sluggish from disease. A fair adjustment may be achieved throughout all the details only to finally fail at the puerperium. For when the zenith point in the pregnancy and the circulatory distension is arrived at, the heart and womb must expel their contents or serious dangers will uprise. This depletion is sudden and effectual; but, nevertheless, it must also be succeeded by the lochial drain, continued in gradual manner for weeks. The danger is imminent when there is pronounced interruption; and, if there is impairment of any portion of the circulatory mechanism, it will most likely prove fatal.

Nature enters her protest against all the acts associated with pregnancy when attempted in the presence of cardiac disability. The excitement incident upon coitus is in itself a trial to which the heart has succumbed when in all the ecstasy of sexual embrace. Notwithstanding that age, temperament and disposition has each made its special co-efficient of force, which may enter into the estimate for good or ill, the fact has been demonstrated that the heart has yielded regardless of each and every one when under the thralldom of sexual orgasm. Sterile cardiopaths cannot be considered safely marriageable. The Malthusian practices, which are so common in France and have been suggested as a means of comparative protection to the cardiopath, are never safe in any respect. Moreover, any marriage which would thus tend to increase the number of Malthusian men, women and children in the world is a trespass upon the moral domain for social ends.

A rational conclusion from the facts already rehearsed would be, that the cardiopath would be greatly influenced by her sphere in life and social plane. A perfect estimate of the consequences would at least include a brief reference to those conditions for good and ill that constitute her environments. It is generally observed that those high in the social plane are not likely to precipitate themselves into the difficulties of marriage without deliberate thought. This gives opportunity to develop and detect impediment. A more general and probable access to the advice of a physician protects still further. Marriage is therefore less common among cardiopaths in the higher social planes. If marriage and pregnancy do occur, rest and ease are the daily portion of the woman. The surveillance of a physician is provided, and his advice carefully followed, often with the aid of efficient attendants. Pregnancies are rarely repeated.

Upon the other hand, there is poverty of blood vouchsafed to her who never experienced, and therefore cannot be expected to appreciate cleanliness, and for the same cause may not be emulous of bright surroundings. Food, air, and temperature are elements which exert potency that is of vast importance in cardiopathic gestation. Constant and exacting drudgery and toil are bad medicines for the injured heart. Upon the submerged class worry lays an awful hand, and among these, the calamitous sequlæ to emotional causes attain their zenith point. Urban life pre-supposes a denial of some of the advantages accorded to those in suburban or country districts. There is a sentimental shadow that steals over the heart burdened by pregnancy and disease that is unmeasured by those who feel only that which is real. It means poverty of home, poverty of blood, poverty of life, plus the anæmia and distress of pregnancy. To those low in the scale, the boundaries of difficulty geometrically expand. Their surroundings conspire to make greatest caution of paramount importance, and at the same time limit the possibility of its achievement.

Mortality statistics are not extensive, but the death rate to the cardiopath during gestation, and at puerperium, proves to be very high. Porak, of Paris, in 1880, reported 92 cases, with a death rate of 38.09 per cent.; Reny, of Nancy, 1880, 38.8 per cent. Wessner, 77 cases by him collected, 37 per cent. died; Schlayer reports 25 with 10 deaths; Leyden, 20 with 11 deaths. Sears collected 30 cases in Boston last year with 10 deaths. These are the number of women, not their pregnancies, and are of cases where severe conditions arose.

Among the few experiences which have fallen to my lot in my earlier practices in this city, I recall one who has passed through repeated pregnancies with a grave mitral lesion; and it is the mitral lesion that is most commonly found in fatal cases. The aortic is rarely present as a very dangerous complication. This is partly due to the general distribution of cardiac murmurs—those of the mitral being more common before middle life, and these of the aortic valves more frequent in later years.

If the cardiopath miscarry, which her heart lesion will probably guarantee, the history will be darkened with extreme danger. The necessity for abortion appears when there are grave symptoms in the early months. When necessary, it should be performed early. If the case is desperate, abortion may, in itself, add to the peril. Charpentier gives it as his experience and observation that among cardiopaths abortions are very common, and premature labor frequent, and children delivered at term do not have tenacity for life. Casanova states that in more than half the cases, with marked symptoms, pregnancy never reaches a conclusion. Duroziez noted forty-one cases, with twenty-one miscarriages—five deliveries at six months. Of the thirty-seven children born alive only two lived to be five years old.

McDonald claims that the hopefulness of the pregnancy is increased if the stage of compensation is attained before conception; because, if the physiological hypertrophy and the uterine enlargement are combined, they include the possibilities of faulty heart nutrition. Degeneration usually begins about the fourth month. The heart has but little potency remaining if it occurs prior to that time. The degeneration and downward course for the woman is almost sure to follow delivery, and is usually speedy. A degree of conservatism has hitherto prevailed among medical men who have answered the question proposed in this paper. This is because some serious cases have succeeded in achieving a safe delievery; and the fact that the mother has merely escaped with her life is considered by some sufficient to commend matrimony.

Jaccound rather encourages the cardiopath to marry, and assumes that lesion of moderate extent, might be consistent with a comparatively wholesome motherhood. If under thirty years of age, he assumes it should be encouraged. Sentimental and moral considerations are suggested as loudly demanding matrimony for the cardiopath.

There are sects and sticklers for creeds who regard those who oppose marriage for any cause as little better than atheistic. Standing upon their self-erected higher ethical plane, they ignore the physical plea that assumes it is always the greatest good of the largest number to have a small death rate.

On the other hand, Peter insists that, under no circumstances should the cardiopath marry. To our own mind this seems the more logical conclusion. When we carefully review the fatal possibilities linked inseparably with cardiopathic gestation, it seems too full of alarm to be dismissed without a most decisive denial. The woman who dares to plunge into such a fatal tide of probabilities can be compared to one who, infatuated by an access of fear while viewing a dizzy height, plunges into the awful chasm which excites her awe. The end does not appear in their selfish self-sacrifice, but they vouchsafe to the fruit of their wombs a legacy of death, and place a stumbling-block in the line of march of humanity toward perfection.

Every thought in the mind of the physician and economist should be directed toward the physical improvement of progeny. It is ours to teach the better doctrine and contemplate the loftiest and most inspiring spectacle of "federation of the world" on this point toward which medicine is surely feeling its way. Each new stride achieved and every old barrier to their consummation beaten down is a strong reason for optimism. However distant the achievement, is is much that it has become the object of effort, not with the few, but with the many.

THREE CASES OF DIPHTHERIA TREATED WITH ANTITOXIN.

W. T. BURLEIGH, M.D., PITTSBURG, PA.

CASE 1. Pearl Hall, aged nine years. I was unable to obtain any antitoxin with which to treat this case until the fifth day of the disease, (Feb. 28). At that time, just before the injection, the temperature was 100° F., the pulse 120. This was in the evening. The next morning after the injection the temperature was normal and the pulse 96. There had been a reduction of the pulse beats from 120 to 96 in twelve hours, and the little girl's mother informed me that she had slept better that night than she had at any time previously, during her illness having complained of a great deal of pain through her head and entire body.

The morning following this, that is thirty-six hours after the injection, and the seventh day of the disease, the temperature was normal, the pulse 84, and the membrane had entirely disappeared.

The patient was discharged the thirteenth day of the disease, and eight days after the injection. The membrane had been confined to both tonsils.

CASE 2. Birdie Armstrong, aged one and a half years, was injected on the evening of the fifth day of the disease, at which time the membrane covered both tonsils, the temperature was 102 2-5° F., and the pulse was 120. The next morning the membrane was still present but in a pultaceous condition; the pulse was still 120, but the temperature was normal. The next morning, or thirty-six hours after the injection, the membrane had entirely disappeared. The patient was discharged on the eighth day of the sickness, or three days after the injection.

CASE 3. On the eleventh day of this month I was called in the evening to see Harry Peterman, aged nine years. He had been ill about twenty-four hours, and was in a profound comatose condition. Membrane covered both tonsils, the pulse was 144 per minute, and the temperature was 103 1-5° F. Twelve hours after the injection, the membrane was apparently unaffected, but the pulse was only 124 per minute, and the temperature was 100 2-5° F.

The next morning the patient was with difficulty kept in bed, the membrane was partially dissolved, the pulse 108, and the temperature 99° F. The next morning, or thirty-six hours after the injection, the membrane had entirely disappeared.

In this case no medication was used, not even a placebo, until the third day, when one-quarter grain doses of calomel were given every two hours to move the bowels. This case was apparently a very malignant one, and would have probably died under any of the former methods of treatment. The parents had lost children before from diphtheria, and had abandoned all hope of saving this one.

The two cases first narrated were treated the first five days with the usual local and constitutional remedies, and these were continued in a desultory way after the use of the antitoxin. These first two cases would probably have recovered anyway, but I believe the length of illness was much shorter, the patients more comfortable and the recovery more certain.

In these three cases, and in one complicated with scarlet fever which I saw in consultation with Dr. Sweeney, there was no paralysis following, and I believe that we can prevent the nervous sequelæ in every case, where we see the case within the first twenty-four hours, and use a strong enough dose.

In the case of Harry Peterman, I was enabled to try the protective influence of antitoxin. A sister's child, a little boy two years old, was there on a visit, and on account of the other children at home they were afraid to take him there, and it was neceesary to keep him in the same room day and night with the diphtheria patient. I gave him an injection of Behring antitoxin 600 units strong, and he did not contract the disease. The same preparation of 1,000 units strength was used for curative effects on the other cases mentioned, and the syringe I am using is a Fisher syringe with asbestos expanding piston, of 15 c.c. capacity. There was no reaction, local or general, following the injections.

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

Address all communications to P. O. Box 843, Philadelphia, Pa.

HAROLD H. KYNETT, A.M., M.D.
Editor.

RODERIC C. PENFIELD
Publisher.

Editorial Offices, 1026 Arch Street, Philadelphia, Pa.

Entered as second-class matter at Asbury Park, N. J.

TERMS:—Three Dollars a year in advance. Sent four months on trial for $1.00.

REMITTANCES should be made payable to the Publisher only, and should be made by Money Order or Registered Letter.

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SATURDAY, APRIL 27, 1895.

EDITORIAL.

AUSCULTATORY PERCUSSION.

It is a noteworthy fact, explicable only on the theory that the human intellect, like a lost traveler, wanders in circles without making much advancement, that the article on Auscultatory Percussion which appears in our present issue, should ever have been offered or accepted as a prize essay.

In 1840, Camman, with the assistance of Clark, published an elucidation of this method of physical diagnosis, which he had recently discovered. Yet the value of his discovery has not been generally recognized by the profession, so that, as the writer of the paper states, any one attempting to investigate the method at present, must be self-taught and his work must be essentially of an original nature, although he can learn from medical literature that there is such an art as auscultatory percussion and can gain a general conception of what he may expect from it.

From one point of view, it is to be regretted that so much of Dr. Benedict's article deals with the stomach and liver. However, it would be manifestly unfair to offer adverse criticism on a necessary consequence of limitation of practice. It seems to us that the careful study of the lung and thoracic cavity, and of the enlarged pelvic organs, by the aid of auscultatory percussion, may develop important diagnostic powers.

Writers agree that the special monaural stethoscope of cedar used by Camman, is unnecessary. This very point, trivial as it may seem, will doubtless determine the adoption of the method by many physicians who would not incur the trouble or expense of buying a separate instrument. A shrewd lecturer once said, that inconvenience had killed more people than incapacity, and it is often enough that the balance of choice between two lines of treatment is swung by some petty consideration which might be offset by five or ten cents. The fact that an assistant is unnecessary—there being no pleximeter finger in use—will also tend to popularize the method.

It is altogether likely that many physicians will take up the method of auscultatory percussion, only to abandon it after a few weeks' trial as of no more service than more familiar methods of physical examination. We would remind any such that no valuable art is mastered in a day; and that if half the claims made for auscultatory percussion are true, it is well worth six months' study. The substitution of friction, the vibrations of a tuning-fork and of an electric interruptor for percussion with the finger, like the automatic tappers invented by other investigators, is ingenious, but, we venture to predict, not destined to take the place of the simpler method. It is matter of common observation that the best surgeons use the scalpel, forceps, scissors and chisel almost to the exclusion of elaborate destructive instruments that have been devised, and the common officinal remedies and simple means of examination are the mainstay of the best medical clinicians.

ABSTRACTS.

COMMUNICATION OF TYPHOID FEVER.

At the last annual meeting of the British Medical Association, Dr. P. W. Williams, Senior Assistant Physician, Bristol Royal Infirmary, reported five cases of typhoid fever as tending to prove that this disease may be be communicated by the breath or expectoration of infected persons. Three of the cases were brothers, and the fourth a nurse who had been nursing the first case. The first, fourth and fifth cases died, and in two of these the post-mortem examination revealed all the typical lesions of typhoid fever, also ulceration of the larynx. As it is practically impossible for any case of enteric fever to be communicated by fæcal contamination in the Bristol Royal Infirmary, by reason of the elaborate and careful precautions taken, and as the first case was delirous and was coughing and expectorating in all directions, it is concluded that in this way the nurse in attendance contracted the disease. The fever in these cases was of peculiarly virulent type. All three in the Infirmary began with very severe headache and bachache, profound nervous prostration supervened very early, and all three died apparently from respiratory failure. In two at least there were laryngeal ulcers, and probably also in the third, the nurse. In one there was purulent discharge from the ear, and in another an abscess formed in the arm. Cultures in agar from the spleen and larynx of the fifth case gave identical micro-organisms corresponding in every respect with the Eberth-Gaffky bacillus of enteric fever. These cases would seem to explain the possibility of typhoid fever being infectious, as maintained by Budd and endorsed by Collie; and emphasize the necessity for more careful prophylaxis in cases which exhibit laryngeal complications. The practical importance of bearing in mind the possibility of typhoid fever communication by the expectoration cannot be over estimated. The true nature of laryngeal ulcers in typhoid fever is still an open question, authorities differing as to whether they are simple catarrhal ulcerations following the somewhat common complications of this disease, catarrhal pharyngitis and laryngitis—or specific ulcers analogous to the ulcers in the intestines. Osler states that he believes that the bacilli have not yet been found in the ulcers, and Fagge, Murchison, Roberts, Libermeister, Strümpell and Bartholow are cited by Lincoln as of opinion that the ulcers are always secondary and not specific lesions of the typhoid process. On the other hand, Klebs, Rokitansky, Landgraf, and Morell Mackenzie are among those who take the view that they are due to a specific deposit upon the laryngeal mucous membrane.—*Pacific Med. Jour.*

DEGENERACY IN LITERATURE.

The Boston *Medical and Surgical Journal* says editorially:

"The recent epidemic of Yellow Books, Green Carnations and New Women in England has led Mr. Charles Dudley Warner to descant, in his own charming way, upon the "yellows" in literature, and to recommend scientists, alienists, and psychological investigators to study it, believing that it signifies disease A study of the sort was made some years ago, before the works above mentioned appeared, by Max Nordau, whose work* an English translation of which has just appeared, has naturally given rise to much criticism.

Nordau was well equipped for the task. In the first place he had been a literary critic for many years, and was thoroughly familiar with modern literature; and, in the second place, he was a disciple of Lombroso, to whom he dedicates his book, and, although not a physician, he had studied neurology and psychiatry very thoroughly, and he was familiar with the morbid mental phenomena of hysteria, insanity, degeneracy and crime. With such a mental equipment, then, which few mere critics could possess, he gives himself to the investigation of certain modern tendencies in art and literature, and to a careful diagnosis of the mental condition of some of the writers who are looked upon by many as leaders in modern thought. As a result he finds that these tendencies have their sources in the degeneracy of their authors, and that the enthusiasm of their admirers is for manifestations of more or less pronounced moral insanity, imbecility and dementia.

Such a study has a special interest for the physician. It might seem at first that the interest would be pathological rather than therapeutic, for it is hard to believe that Mr. Aubrey Beardsley or Mme. Sarah Grand, for instance, would wish to be cured of the morbid manifestations which are their chief title to fame. Nevertheless, if books or works of art inculcate absurd and anti-social doctrines, they exert a disturbing and corrupting influence on the minds of many people, especially the weak-minded and hysterical, and those who adopt every new doctrine which they think is fashionable. We have seen within a few months how much mischief a degenerate labor agitator can do if chance puts him into a position of power. The neurotic are often rendered much more unstable and sometimes actually insane by dwelling too much upon the teachings of the degenerate, whether it be in the field of anarchy, socialism, theosophy, Christian science, or spiritualism. It therefore becomes the duty of the physician, as a matter of public mental health, clearly to recognize the mental stigmata of degeneracy, and to point out to the public the true nature of such conditions and the leading facts in mental therapeutics. Unhealthy books may do as much harm to the mind as certain disease germs do to the body, and it is not against the so-called pornographic writers alone that the public should be warned. The physician too often gives precise directions about the preparation and ingestion of food for the body, while he too seldom considers what food is offered to his patient's mind, and yet a course of Ibsen or Tolstoi or Maeterlinck may do as much harm to some persons as devilled kidneys, Welch rarebits, or mince pie. Only by a careful study of the mental stigmata of degeneracy can the physician prescribe what Nordau calls the effective treatment of the disease of the age: "Characterization of the leading degenerates as mentally diseased; unmasking and stigmatizing of their imitators as enemies to society; cautioning the public against the lies of these parasites."

The physical stigmata of degeneracy have been fully enumerated by Morel, Lombroso, and others, and they are beginning to be mentioned in the modern treatises on nervous diseases. Nordau enters into an elaborate study of the mental stigmata, which are also well recognized by alienists and neurologists. The sensory apparatus of the degenerate may either be so irritable that a slight stimulus will give rise to a very marked response, as when a color, or a bar of music, or an ordinary verse of poetry fills him with a strange thrill or shudder; or it may be so sluggish as to be aroused only by the hor-

*Max Nordau, Entartung, Berlin, 1893; Degeneration, New York, 1895.

rible or the disgusting. In the one case he may be proud of his excitability, and consider it proof of deep appreciation; in the other he may, with equal pride, consider himself above the ordinary prejudices of humanity. With it all he is selfish, conceited, and extremely emotional. A sensation ordinarily excites many different cells in the cortex, giving rise to many associated ideas, but the healthy mind disregards the unimportant ideas thus aroused and concentrates its attention only on those which are essential. The degenerate is weak of will and incapable of fixed and prolonged attention; the unimportant ideas thus called into activity are not ignored, but fill his mind with a jumble of vague and obscure notions, which suggest strange relations. A word may thus call up other words of similar sound but with no related significance, and we have the phenomena known as echolalia. With vague and obscure ideas and unusual associations, the degenerate is incapable of clear thought and often becomes a mystic, finding hidden significances and inexplicable relation in all things. In other cases, with a prevalence of insistent ideas, his own personality becomes the dominant factor in his world. In cases where the sensory apparatus requires powerful stimuli, or where sexual or other animal instincts give rise to insistent ideas, he may show evidences of sexual perversion or denounce the ordinary laws of decency and custom, and be classed as an anarchist. In other cases he may be filled with vague and impractical ideas for the regeneration of society, and preach social reform. In most cases, unhappily for society, he has a morbid desire either to talk or write, and indulges that desire constantly.

Having thus set forth the leading mental characteristics of degeneracy, which, it is needless to say, are in the main accepted, Nordau carefully studies the works of various writers and brings forward the evidence that they are degenerate. Rossetti, Swinburne, Paul Verlaine, Mallarmé, Tolstoi, Wagner, Péladan, Maeterlinck, Walt Whitman, Baudelaire, the French symbolists and décadents, Oscar Wilde, Ibsen, Zola, Nietzche, and many others; all are weighed in the balance and pronounced degenerate. In many cases there can be no question as to the justice of his criticism; apart from their writings the known facts in the lives of such men as Poe, Verlaine, Maupassant, Nietzche, and Tolstoi prove his assertions. In the main, too, although his criticism is savage, and his pleading at times special, the facts which he adduces more than substantiate his assertions.

It cannot be denied that in some cases the degenerate may possess great abilities in some directions; but he will be, as Lowell said of Poe, "three-fifths of him genius and two-fifths sheer fudge." He lacks harmony and balance; his mental development is unequal, and his influence does not advance the world, but it is always unhealthy; like Carlyle, "he leads men into the wilderness—and leaves them there."

It is the tendency of the degenerate to associate with his kind, the criminal in the Mafia, the mystic in a religion, the esthete in a cult. Around those groups cluster many neurotic persons, who suffer from "the restless seeking of the modern soul for a new ideal," who are also incapable of clear thought, and who call that deep which is only obscure, incomprehensible and absurd. When the sect is once formed, many others join simply to keep in the fashion or to seem "advanced," and with them come the social strugglers who are always eager to win money or notoriety by adopting every new fashion. Degeneracy is not necessarily, as Nordau thinks, a disease of our age, but its stigmata may be found throughout literature, in the mysticisms of the Neo-Platonists, the sentimentalism of Rousseau, or the indecencies of the Marquis de Sade. It is, however, to-day, with the dearth of great writers, much more in evidence, and it becomes the physician's duty to show that these idols of the present are false gods.

Toxic Effects of Thyroid Feeding.

Beclere presented to the Medical Society of the Hopitals, Paris, a patient illustrating the cure of myxœdema by thyroid therapy. During the course of her treatment she accidentally took a large quantity of tyroid gland—92 grains in eleven days. At the end of this time she had developed such symptoms as tachycardia, pyrexia, insomnia, tremor of the extremities, exophthalmia, polyuria, albuminuria and glycosuria; in fact, a complete picture of Basedow's disease. The writer, therefore, concludes that the latter disease is due to a hypersecretion of the thyroid gland, which may be caused in more ways than one.

SOCIETY REPORTS.

ALLEGHENY COUNTY MEDICAL SOCIETY.

March, 19 1895.

Dr. W. T. English opened the discussion of the subject announced for the evening, entitled:

SHOULD THE CARDIOPATH MARRY?

(See page 599).

DISCUSSION.

Dr. W. D. KEARNS: This is certainly a subject which deserves a good deal of reflection, and upon which there is quite a diversity of views. The views of the reader of the paper are certainly orthodox. How to reach these cases before the harm is done is a difficult question. Many young women are undoubtedly suffering from cardiac lesion, who do not consult a physician. I think the gravest reason why the cardiopath should not marry, is on account of her offspring. And then again, we cannot foretell the results of a slight cardiac lesion or what will occur in the course of time. Hypertrophy of the left ventricle is only the first stage, and the disease may never go beyond this stage. Hypertrophy of right auricle and ventricle is the second stage, with many evils attendant upon it. But, gentlemen, is this stage always reached? If we are to prohibit such young women from marrying, may not the same or worse results occur from other causes; for instance, cycling?

A slight muscular overstrain, in a person suffering from a slight cardiac lesion, may bring on hypertrophy of the right auricle and ventricle. But to return to the original discussion, should a woman get married who has a cardiac lesion? I trow not. But has not the husband, or rather the man, just as sharp a line of duty to follow? I think this should be just as binding on the man as on the woman. God gave no man a right to make a woman miserable or to destroy her happiness. If we are to make a rule for the survival of the fittest, we must exclude the man just as much as the woman. Take the subject of tuberculosis—pulmonary tuberculosis, and in thirty years of obstetrical practice I have studied the effects of this disease upon the uterine impregnation. And I feel more and more every day that the marital exclusion of persons having a tubercular taint should be more prominently brought forward and applied to both sexes—to the man as well to the woman. On the point of the cardiac lesion, I do not take quite as extreme a view as the reader of the paper, but I believe if he errs at all, he errs on the right side.

DR. J. M. BATTEN: It is a fact that some families "breed down" physically and become extinct, and that other families "breed up;" and this is, I believe, due, to a certain extent, to improper selection. I do not think it is the duty of any man to select a woman who is diseased in any way; but after a man has selected a partner who has a slight heart affection, I cannot see any reason why it would not be proper for the woman to bear children. I would consider this question affirmatively because, in the majority of these instances, the child will take the constitution of the father. We have no proof that heart disease is hereditary. I have attended some cases of mothers who had heart disease, who bore exceedingly healthy children—nothing the matter with the heart at all. I suppose the reason for this was the children took the constitution of the father. In one case of confinement which I attended the mother had heart disease, and during the course of the pregnancy see had several attacks of hemoptysis, and that lady is still living. I might mention also a case which came under my notice, of a man who had heart disease, and who died in the act of copulation.

DR. ADOLPH KŒNIG: Considering the fallibility of our judgment in matters of this kind, it seems to me that we take considerable responsibility on our shoulders when we declare to a young woman or a young man that they must break off some engagement into which they have

entered, and live a life of celibacy. When we remember that many cases of heart disease will go to old age without serious difficulty arising, it seems to me we are not justified in saying to any human being, "You must not marry;" especially when we know that in many cases of heart disease a married life is not more dangerous than a life of celibacy. I remember Prof. Flint's advice regarding prognosis in cases of heart disease. He always took a middle ground. He said that the safest course was to tell the persons that they were far from being well or in perfect health, and that they must guard carefully against excesses of any kind, or in any direction, and if this care was observed they might live out the ordinary term of life. I think all of us may have seen cases of such individuals, in whom life was prolonged, even beyond the limit accorded to more robust persons, simply because they knew they must guard against excess of all kinds. Many of these cases alos pass a more healthful and happy life on account of this constant care exercised to avoid excess or exposure. I recall to mind a case on which I was called upon to pass judgment, some ten years ago, of a young woman who had valvular heart disease. I did not feel justified in telling that young woman that she must give up all hope of a happy married life. She married, and I must say that subsequent events proved that I would have done her a great injustice if I had denied her her present happiness. Of course, many cases may end disastrously, but they might have ended just as disastrously without the marriage relation.

Dr. Theodore Diller: The late Sir Matthew Arnold had valvular heart disease and was told so by his physician, Sir Andrew Clark, more than twenty-five years before his death, and yet it is a fact that he did nearly all the best work of his life with the full knowledge that he was suffering from this organic cardiac leison. I have often talked with older practitioners on this subject, in which I have always been interested, and have been told of many cases of persons who have gone through life with heart murmurs without the lesion affecting their daily work to any appreciable extent. I have myself followed some cases for eight or ten years, and must say that my own ideas are very much at variance with the teachings of most of the medical schools of ten years ago. To my mind it does not mean very much of itself to say that a woman has a heart murmur; it may or may not be a serious matter. Life insurance companies are beginning to realize that a heart murmur is not necessarily a menace to life, and some of them will insure cases of this kind. I think that the prognosis in the majority of these cases has been entirely too gloomy.

Dr. John Milton Duff: I do not want to enter into an exhaustive discussion of this question, but I would like to bring forward one or two points in connection with it. Theoretically I agree with the paper of Dr. English. It might be even said that if the sole object of life was to improve our race, we should prohibit the marriage of all persons who are not in perfect health. I do not think, however, that a woman with a slight heart lesion undergoes any more danger during pregnancy and child-birth, than does a woman suffering from many other lesions. But we are not to consider that all heart lesions are hereditary, and that is one point in which the doctor should have made a distinction. If I produce disease of my heart by excitement, by calisthenics, or by overlifting, a consequent hypertrophy of the left ventricle and the succeeding conditions following in the right and left auricle, I am simply suffering at that time from a traumatic condition, and it would be almost as logical to say that I should not then marry because of the evil effects upon my progeny as it would be to assert that I should remain single because I had lost a limb. I admit that as far as my personal experience goes it has not been very extensive, but I can recall but few cases in which I feel confident that pregnancy did really impair the condition of the heart. We all know that during pregnancy there is a dilatation of the heart, and that this dilatation is accompanied by temporary hypertrophy. Now if there is a hypertrophied condition of the muscles of the heart before pregnancy, this hypertrophy will naturally be increased somewhat during pregnancy, and there will be a change in the structure of the fibers of the muscles of the heart, just as there is in the uterus. After delivery there is a retraction and contraction and there will be an absorption, and all this

may bring about an ultimate condition in which the pathological symptoms all disappear. This may be theoretical, but in two cases of my own the resulting conditions seemed to verify it, and the subsequent health of these cases justifies me in calling your attention to pregnancy as a possible cure of cardiopathy. I was very much interested in the excellent paper.

DR. W. C. SHAW: I wish to state that I have had some personal experience with cardiopathic marriage.

Some time after I had become exgaged to the lady who afterward became my wife, I discovered to my utter amazement that she had valvular disease of the heart, and about as bad a case as you will ordinarily meet. The question which now confronted me was what my duty was under the circumstances. As I had not discovered this lesion before becoming engaged to her, I married her, and although the cardiac lesion was the direct cause of her death, complicated by pregnancy, yet she raised three children, two of whom are yet living; however, I think a man with his eyes open, and a medical man at that, should think very seriously before entering into the marriage relation with a cardiopath. Was it an exception that death occurred at the fourth pregnancy instead of at the first? I was only permitted to live with her a little short of ten years, wanting eight days only.

I consider the question of cardiopath marrying a very serious one. The woman is in danger from disease and death, and the husband is in danger of losing his wife.

DR. BATTEN: Are your children now living healthy?

DR. W. C. SHAW: Yes, sir.

DR. W. T. ENGLISH: Mr. President and Gentlemen—It seems to me that the discussion of this paper has taken a very different phase from the paper itself. The principal point which I desired to make and emphasize was that a cardiopathic *wowan* should not marry, and the fact that I omitted from the discussion the masculine gender is a tacit admission that they are not to be considered.

Please rehearse the points made: In the first place we have a woman with heart disease jeopardizing her life, and shortening her days, and it seems irrational to say that such a woman could become pregnant with safety to herself. I think it would be very wrong for her to ever marry, because marriage would necessarily bring about pregnancy; and the evil consequences would be multiplied againt her. She would voluntarily increase her own danger; but the danger does not stop here. It continues on to the fœtus. I think the statistics in my paper prove this latter point conclusively. Pregnancies rarely go to term, but patients generally abort either from accident or necessity. At times it becomes the duty of the physician to produce an abortion and thereby relieve the immediate conditions. When they go to term, then what? All the statistics which I have been able to gather go to show that the offspring of the cardiopath rarely live five years. I think it most irrational to assume that the cardiopathic woman should marry under such circumstances. With regard to themselves and with regard to their progeny, the physician's advice should always be against marriage. So far as the men are concerned, I leave them out of the question.

I desire to take exception to the statement of Dr. Diller that insurance companies would insure persons having cardiac lesion. No regular insurance company would accept such a risk. The companies which will take such an applicant are classed as extra hazardous, and they charge the entire premium on the payment plan against the policy, allowing that premium to be deducted by the annual payment, requiring some twenty years to pay off the claim. In reality there is a lien against the policy for the entire premium, figured at the annual rate which obtains at the age the policy is secured. If death occurs the first year, the entire amount of the premium is deducted from the face value of the policy.

Acute Tonsillitis.

Salicilate of soda is recommended as little less than a specific in acute tonsillitis. It should be given as early in the attack as possible, and in sufficient doses to cause ringing in the ears. Fifteen grains every three hours will usually cause this effect, when the dose may be diminished to ten, and then to five grains at the same intervals. It should be continued a day or two after disappearance of the fever.—*Medical Summary.*

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M D.

MEDICINE.

Treatment of Renal Colic.

In persons who are subject to the uric acid diathesis, attacks of renal colic are of not infrequent occurrence, and they are commonly attended with such agonizing pains as to leave the sufferer in a prostrate condition for a considerable time after their disappearance.

Although during the attacks little can be done except by the administration of morphia, chloroform, phenacetine and other analgesics, to relieve the pains and render the patient more comfortable, much can be done in the interval to prevent the occurrence of the trouble.

Observations during the past few years have shown that piperazine, in connection with copious draughts of water, is capable of rendering decided benefit in this class of cases.

Although its physiological action is not as yet perfectly understood, piperazine is acknowledged to be the most effective solvent thus far brought forward for uric acid. It keeps the uric acid in the blood in a soluble condition, preventing its deposition in the various tissues, the kidneys, joints, etc., and also dissolves uratic concretions that have existed for some time in these localities.

A considerable number of cases of renal lithiasis have been reported in which the administration of piperazine has been followed by an abundant discharge of gravel in the urine, relief of the pains in the region of the kidneys, and of the hematuria, if present. Its prolonged use in these cases has also insured the patient against a recurrence of the attacks of renal colic, and thus greatly aided in their restoration to health.

Piperazine-Bayer should be administered, as already stated, in a liberal quantity of water, and, in view of the chronic nature of this affection, it must sometimes be employed for a considerable time.

Acute Diseases of Childhood.

In the treatment of the acute affections of childhood, the physician is often confronted with the problem of how to reduce high temperature rapidly and effectively and without injury or discomfort to the patient.

Among all the remedies hitherto proposed, phenacetine still maintains its position as the most eligible antipyretic in pediatric practice. Its popularity is based upon its possession of marked sedative and anodyne properties, aside from its power of reducing fever. Under its influence the restlessness disappears, pain, if present, is relieved, and the child often drops into a refreshing sleep.

In an interesting article in the *Archives of Pediatrics*, March, 1895, Dr. C. G. Jennings states that among the coal tar antipyretics, "Phenacetine has given by far the most satisfactory results. Clinicians generally agree that powerful effects like cyanosis and dangerous cardiac depression never occur with this drug with a reasonable doseage. The beginning dose of phenacetine should never be larger than one half grain for each year of age. This dose may be repeated every hour for two or three doses. Guided by the thermometer or the relief of the distress and the breaking out of a gentle perspiration, the administration of the drug can be arrested when the result is accomplished."

In the treatment of acute nasal and pharyngeal catarrh, tonsilitis, laryngitis, bronchitis, pneumonia and pleurisy in the first stage, the author advises the combination with aconite of one, two or three doses of phenacetine at hourly intervals, at the height of the pyrexia. After the period of engorgement in pneumonia and any grave inflammatory disease, however, the aconite should have no place in its therapeutics, and antipyresis should be accomplished by the bath or phenacetine, administered with very great care.

In the pyrexia resulting from the absorption of ptomaines, and the acute indigestion of childhood, phenacetine, in Dr. Jennings's opinion, is *par excellence* the remedy. It can be administered with calomel, bismuth or salol to suit the necessity of the case.

He also states that in the acute inflammation of the cerebral and spinal meninges, tubercular meningitis, and leptomeningitis, and cerebro-spinal meningitus, phenacetine will be the antipyretic to administer, as it promptly relieves the agonizing headache and neuralgic pains and induces quiet and refreshing sleep. He has found this remedy very serviceable in the exanthematous fevers. In measles the high fevers attending the onset and acme of the eruption stage can be well and safely controlled by phenacetine, while in scarlatina, of a mild and moderately severe type, the administration of one or two doses, when the pyrexia becomes uncomfortable, is good treatment. The same experience was obtained in the treatment of variola. Finally, in malarial fevers and in typhoid fever of a mild type, phenacetine, in the author's opinion, has best answered the purpose of an antipyretic.

A New Method of Narcosis.

At a meeting of the Berlin Medical Society, Dr. P. Rosenberg described a new method of combined anæsthesia which he trusted would entirely prevent the lethal action of the chloroform on the heart. He has demonstrated by experiments on animals that cardiac syncope during chloroform narcosis is due to reflex irritation originating in the nasal mucous membrane and transmitted to nerves having a paralyzant action upon the heart and respiration. By anæsthetizing the

mucous membrane of the nose with a spray of cocaine these reflex disturbances are prevented, and, in view of the fact that cocaine is an antidote to chloroform, its absorption will in another way obviate the injurious effects of the latter. If the nose is previously cocainized, anæsthesia is more readily induced, is attended with less disturbances, and especially is free from after effects. The patients wake up rapidly, and experience none of the usual discomforts.

Amylene Hydrate.

Harmack and Meyer (*Zeitschr. f. Klin. Med.*) have arrived at the following results after careful investigation of the physiological properties possessed by amylene hydrate. Like alcohol, it first excites and then successively paralyzes all the nerve-centres. In graminivorous animals quiet sleep is produced, whereas in carnivora the symptoms of excitement and intoxication are more pronounced. The fatal doses were found to be 15 to 30 grains per kilogramme weight of animal. A very marked diminution of temperature is produced, intensifying the danger to life. Muscular spasms produced by poisons, such as santonin and picrotoxin, are delayed or alleviated. The excretion of urea is diminished, and, finally, it cannot be employed subcutaneously, owing to the severe pain produced.

Duboisin as an Hypnotic.

P. S. Skuridin (*Vratch*) used hypodermic injections of duboisin in twenty one cases of sleeplessness in the insane, the dose varying from $\frac{1}{150}$ to $\frac{1}{75}$ grain, and the grand total of injections amounting to three hundred and sixty. In one hundred and fifty-three (forty-two per cent.) cases the duration of induced sleep exceeded six hours, while in one hundred and twenty-six (thirty-five per cent.) it oscillated between four and six hours, and in sixty-two (eighteen per cent.) was under four hours. In nineteen (five per cent.) the drug failed altogether. The writer comes to the following conclusions:

1. Duboisin will occupy a prominent place among hypnotics for the insane.
2. The best results may be expected in epilepsy, periodical insanity, and acute mania and mental confusion.
3. The hypnotic effect is a secondary phenomenon, developing consecutively to the subsidence of a motor or muscular excitement; hence the drug proves most useful in insomnia caused by intense motor excitation. In sleeplessness depending upon illusions, hallucinations, or organic brain disease, but unaccompanied by distinct motor disturbances, the remedy remains inefficacious.
4. The drug is free from accessory ill effects.

Potassium Permanganate.

In the Canadian *Practitioner*, Chambers concludes a paper detailing some experiments on this subject as follows:

1. Potassium permanganate in dilute solution, not stronger than one grain to an ounce, may be given by the stomach without danger.
2. Potassium permanganate, subcutaneously, is poisonous.
3. Potassium permanganate, grain for grain, completely decomposes morphine, the decomposition occurring in acid media more rapidly than in a neutral medium.
4. Food-stuffs and acetic acid do not interfere with the decomposition.
5. Potassium permanganate is an efficient antidote if taken while the morphine is in the stomach.

The question still remains as to whether potassium permanganate is of therapeutic use after the morphine is absorbed into the system. It has been proved conclusively that if morphine is introduced subcutaneously into the system, it is excreted into the stomach. Now, the morphine passes from the blood into the stomach by osmosis and by excretion, and, by the principle of osmosis, more morphine will be excreted if it is decomposed as soon as it passes into the stomach. Reasoning on this principle, we would expect that repeated small doses of potassium permanganate by the stomach would be of use in cases where the morphine has been absorbed into the system. This is rendered more probable by the fact that morphine, as a rule, is a slow acting poison.

Diet in Gout.

A. Bogdanoff has studied in Professor Obolenski's clinic the influence of animal, mixed and vegetable diet in four patients, three of whom suffered from gout and the fourth from round ulcer of the stomach. The latter patient was given only milk as a food. The mixed diet was found to cause the greatest daily excretion of urine and of uric acid. The specific gravity was between that of the urine in vegetable and that in animal diet. The body-weight increased most under the influence of vegetable diet, diminished under mixed diet and fell greatly under meat diet. In the fourth patient, although the daily quantity of urine was as great, with a slightly acid reaction, the quantity of uric acid was small. The author concludes from these experiments that the diet of gouty persons should not be heavy, but nourishing, and tending to increase the number of white blood corpuscles. For this purpose mixed diet answers best. Pure meat diet acts badly from a psychical standpoint, frequently causing a great antipathy to meat, a tendency to eat little and to drink less, and in this manner diminishing the quantity of urine considerably. Constipation is also often observed.

Common Diseases Mistaken or Mistreated.

The author, James F. Goodheart, spoke of scurvy as being a very common disease in children, and although such cases are often enough recognized, they are constantly allowed to go unrecognized, and pass as rickets, or rheumatism, or injury, or temper, or "pure cussedness" and so on. He thought the cause was usually due to keeping a child

too long on condensed milk or feeding too liberally upon one or other of the infant foods. Condensed milk is an excellent food for infants upon proper occasion, but its constant use should not be continued too long. However, scurvy will sometimes appear with any of the foods, even the best of them. The remedy is pure milk, raw meat juice, good vegetable broths and orange juice as regards foods, and absolute rest in bed with a little opium, if necessary, for the pain. They generally recover speedily but not always. It has twice happened to him that after giving a very hopeful outlook, the child has died suddenly the next day In neither case did the child look worse than many another who did perfectly well. Therefore, until the child has taken to its change of diet and begun to mend, it is as well to speak guardedly.—*Lancet.*

Follicular Tonsillitis.

A paper by Dr. Norris Wolfenden on "The Nature of So-called Follicular Tonsillitis and its Relation to Infectious Disorders," describes recent progress in the study of this disease, with special reference to its bacteriology. The author believes that the time is not far distant when we shall classify the inflammatory condition of the tonsils and throat upon a bacteriological and not a clinical basis. He describes briefly four varieties, omitting all cases in which the bacillus of diphtheria plays a part, under the head of staphylococcal, streptococcal, pneumococcal, and Roux and Yersin coccal angina. In all of these forms there may be throat symptoms which resemble diphtheria. "Follicular" tonsillitis is not really follicular at all; it is an acute cryptic infection due to one of these forms of cocci. Its contagiousness appears established in some cases, but is generally not very easily traced. It never appears to attack large masses of people simultaneously, although a number of persons living under the same roof or in the same conditions are frequently affected at the same time, suggesting unsanitary surroundings as a common cause. The pathological enlargements of the tonsils, in which a chronic process of catarrh is present in the crypts, form not only the best culture media for a large number of micro organisms but give their products an opportunity to invade the system. Clinical appearances alone often allow so little ground for diagnosis of simple tonsillitis from diphtheria that in the absence of bacteriological diagnosis it is wise to isolate such patients from the first

The Treatment of Appendicitis.

Concerning the medical treatment little need be said. Locally, cold alone is appropriate in the beginning, and if slow in development, heat may be of utility in hastening the process. This was exhibited in the second case, seen four days after its inception and operated on on the tenth day.

Internally, opium is by far the most appropriate in all cases where it agrees, and no fears of "masking the symptoms," as some surgeons put it, should be entertained This drug gives physiological rest; and, more than that, it controls the inflammatory process, actually diminishing the calibre of the arterioles of the mesentery and peritoneum better than any other drug yet used.

If the colon be filled with fæcal matter, a mild saline, just sufficient to remove this cause of embarrassment, is appropriate, and for the purpose no prescription is superior to the one used in the writer's cases—namely, fifteen grains of sulphate of magnesium in a half ounce of peppermint water every hour until the desired result is obtained. This mixture is well borne by the stomach and is efficient after a few doses. The diminution of the abdominal contents from the emptying of the gut of fæcal matter and of gas was most marked in the cases where it had been used, and at the time of the operation the freedom from interference of inflated intestines much facilitated the operation.

If general peritonitis develop, possibly the saline treatment alone is more scientific; but this is not settled. In such an event the author has never seen a case which recovered from either medical or surgical treatment, however skillfully it may have been applied.

Salol is of great value, as in so many intestinal diseases, by its efficiency in controlling fermentative processes in the intestinal canal.

The diet should be entirely restricted to fluids; and, so long as vomiting continues, nothing but barley-water or oatmeal-water or ice-water should be permitted. With the amelioration of the primary symptoms diluted milk, with a tablespoonful of lime-water to each glass, may be allowed.

These cases teach that an early diagnosis, the timely association of a surgeon in the management of the case, and the harmonious working together of the physician and surgeon will save many valuable lives that otherwise might be lost to the world.—Heffron, *Medical Record.*

Serum From the Donkey in the Treatment of Tuberculosis.

From a series of observations, Viquerat (*La Medecine Moderne*), affirms that injections of tuberculin in the donkey causes no other effect than an extraordinary increase of the appetite. The serum obtained from this animal, subjected to the intravenous injections of tubercle-bacilli, has been tried by the author first in tuberculous animals and afterward on phthical human beings. The subject was presented by Viquerat in a communication to the Societe Medicale de la Suisse Romande recently. Out of twenty-five cases treated with this serum, one cure and one amelioration were obtained. He presented two cases actually cured, but one was that of a girl suffering from cold abscesses and a cutaneous tuberculosis of the hand. The amount of the serum injected in these cases is not stated, but the author intimates that from 200 to 300 grammes might be a good quantity. The matter, though not received with enthusiasm, was extensively discussed; but, as a whole, the society preferred to assume a conservative attitude.

Bicycle Riding for Women.

"At the meeting of the Societie de Medecine Publique, Mme. Gaches-Sarrante read a paper on the utility of the bicycle for women. For the last three years she has been practicing this masculine exercise to the great benefit of her health. Alluding to the costume to be adopted, she insisted on the fatigue produced by the corset; the least up-hill provokes oppression from the stricture of the thorax. As regards the genital organs, all acute inflammation should forbid the use of the machine; but when the lesions were chronic, moderate exercise might be permitted and even enjoined. In any case, riding is much less fatiguing than standing or walking. Salpingitis, or chronic salpingo-ovariatitis, do not constitute a counter-indication, and in cases of chronic peri-uterine inflammation the bicyclette can replace with advantage the Swedish method of massage.

"Bicycling exercises, consequently, a healthy influence on the physical nature of women; they sleep better, digest better, their chest expands so as to find it necessary after a short time to enlarge the corsage of their robes. Mme. Sarrante concluded by drawing a vivid picture of the moral role of the bicyclette, the only physical exercise that husband and wife can take together."

Late Hereditary Syphilis.

Dr. Foster does not believe in what is often called late hereditary syphilis. He believes that in every case of inherited syphilis there are some symptoms during the first years of life, and in the vast majority of cases nearly 90 per cent. before the third month. These symptoms are frequently very mild and frequently escape observation, and the disease may then remain quiet until about the age of puberty. The lesions most commonly met with are of the skin, the eyes and the bones. —*Northw. Lancet.*

The Treatment of Jaundice.

Dr. M. Alivia, of Viterbo, read a paper before the International Congress on this subject, which concludes as follows:

1. Long-continued biliary stasis, comprising the secreting cells of the parenchyma of the liver and producing a certain anemia of the organ, markedly reduces and sometimes suppresses, the secretion of the biliary acids. The gravity of the phenomena described under the name of biliary intoxication does not, therefore, depend upon the action of these acids.

2. The scarcity or absence of bile in the intestinal canal modifies very seriously the chemical processes there taking place.

3. One of the most common of the gastric changes in icterus is the suppression of hydrochloric acid secretion.

4. There is little or no loss of carbonate of sodium in these cases.

5. The reaction of the contents of the stomach is usually alkaline, less often neutral or faintly acid.

6. The physiological activity of the bile and of the pancreatic juice of the intestine is retarded.

7. The chlorides in the urine are increased, the reaction of the fluid is often alkaline, there is diminution of urea with an abundance of products of the aromatic series.

8. The more marked are these characters so much the more grave are the disease and its clinical manifestations.

9. Alkaline treatment does not modify these conditions. The effect of the acid treatment is, however, to diminish the chlorides, to restore the normal acidity of urinary reaction, to increase the excretion of urea, and to reduce that of the aromatic products; at the same time there is a progressive increase in the weight of the body.

Ocular Headaches.

Dr. F. D. Green (*The Refractionist*) concludes an article on headache as follows:

1. Many cases of headache are due to ametropia.

2. Many cases are due to heterophoria.

3. Never pronounce a case as due to ocular strain until the nose is examined.

4. Inquire into the condition of the stomach.

5. In females inquire concerning the condition of the genitals and whether there is constipation.

6. Migrane may be due to ametropia or heterophoria, but frequently is not.

On the Value of Solanum Carolinense in the Treatment of Epilepsy.

In the presence of so chronic and incurable a malady as epilepsy, the introduction into medicine of any remedy which will diminish the number or the severity of the attacks in a certain number of cases is an improvement in our therapeutic measures which is not to be overlooked, and in solanum carolinense we believe such a remedy exists.

While we have not as yet administered it to a large enough number of patients to speak positively as to its therapeutic powers, in the few to whom we have given it it has given promise, which is, to say the least, encouraging.

Our attention has also been called to this subject by an article by Dr. Maxwell, of Indianapolis, in the *Indiana Medical Journal* in which he concludes that solanum carolinense materially controls epileptic seizures and is worthy of considerable confidence. Several of the observers quoted by Dr. Maxwell employed what is known as the succus solanum, but the preparation which we always used was the fluid extract made by Parke, Davis & Co., giving 10 to 15 drops of the drug three times a day after meals.

A Report of Cases of Chronic Heart Disease.

In the New York *Medical Journal*, Dr. R. H. Babcock, in reporting the results from employment of the Schott method of baths and gymnastics in diseases of the heart, says that the baths owe their efficiency chiefly to

free carbonic acids and the two salts of calcium and sodium chloride, while next in importance is the temperature, for as warm baths are debilitating and decidedly weaken the heart, even in health, they should in the beginning be from 92° to 98° F., and 87°, or a little lower, toward the close of the course of treatment.

The duration of each bath should be carefully limited, but may cautiously be prolonged with the progress of treatment and improvement of conditions.

One bath is given daily, but should be omitted every fourth day; the initial time is from five to eight minutes, to gradually reach a duration of twenty minutes.

A thorough course of treatment should extend through six or seven weeks, and after a rest of one month may be again continued if such be required.

The result of such treatment seems to lessen rapidity and increase the force of the heart's contractions, thus occasioning better filling of the great arterial system, with corresponding depletion of the engorged veins.

The gymnastics, which slow the rate and increase the force and volume of the pulse, should consist in flexion, extension and rotation of the extremities and trunk, but the attendant should carefully observe that the movements are made slowly and steadily, with occasional intervals of repose.

After referring to a number of cases successfully treated by this method, he concludes by saying that in those of aneurism, advanced anterio-sclerosis, acute softening or great fatty degeneration and degenerative changes of the blood vessels and myocardium, it is contra-indicated.

Value of Opium in the Laryngeal Stenosis of Children.

Dr. Carl Stern (*Ther. Monat.*) recalls the well-known fact that the difficulty in breathing in stenosis of the larynx in children is greatly aggravated by sleeplessness and fright. For this reason he has been led to treat these cases with opium, and his results have been so gratifying that he believes the remedy should receive more extensive employment. He uses it in cases—whether in diphtheria or without existing throat affection—in which the hoarseness, the barking cough, the stridor, the cyanosis, and finally the sucking in of the xiphoid process and lacteral portions of the thorax point unmistakably to stenosis of the larynx. He reports several cases in which the use of opium averted an apparently necessary tracheotomy. Stern gives from two to five drops of the tincture of opium, according to the age of the child and the intensity of the symptoms, the dose being renewed according to the result obtained.

The Best Treatment in Heart Disease.

Robert H. Babcock, of Chicago, Ill. (*The Journal of the American Medical Association*), concludes an able paper on the above subject as follows:

1. The position taken by Fraentzel, that rest is injurious in the treatment of all forms of heart disease is untenable, and the reasons he assigns are incorrect. Prolonged rest is detrimental, undoubtedly, in cases of enlargement of the heart without valvular disease, partly if secondary to arterio-sclerosis, and in cases of fatty or other degeneration of the cardiac muscles.

2. The cause, however, lies in the circulation outside of the heart and not, as stated by Fraentzel, in the liability of cardiac, like striped voluntary muscle, to degenerate as a result of prolonged inaction, since the heart muscle can not during life be subjected to complete repose.

3. When compensation has become destroyed in valvular lesions of the heart, particularly mitral stenosis and aortic incompetence, rest is indicated theoretically and is beneficial in practice.

4. Bradycardia would theoretically contra-indicate prolonged rest.

5. On the other hand, it is called for in paroxysmal tachycardia, but should not be maintained, after having shown its powerlessness to affect the heart rate.

6. Acute inflammatory or degenerative affections of the heart indicate rigid rest in the recumbent position.

Bicycling for Women.

The much-discussed question as to whether bicycling is *per se* an exercise suited to women is, perhaps, now of minor importance, since it has become fashionable, and will, consequently, be adopted by the gentler sex, without much regard as to its immediate or remote effects Its popularity is, however, a very satisfactory proof as to its capacity as a giver of health and pleasure, since it is not conceivable that the bicycle could ever have won its way, as did the corset, for instance, as a fancied adjuvant to physical charms. The late Dr. William Goodell, wise in an unusually wide experience, gave the exercise his unqualified endorsement, and from the almost entire absence of adverse criticism, it is apparent that the majority of gynæcologists are of the same mind. The whole question is an exceedingly simple one, and has been summed up by Dickinson (*American Journal of Obstetrics*), who concludes a very clear and complete paper upon this subject as follows:

Under proper conditions of costume and posture, with care that the exercise be gradually increased and properly graded for the individual case, and where there is no acute inflammation to contraindicate it, bicycling will probably show itself capable of large results as an agent in curing pelvic disorders, since it is one of the few exercises which attract women.

In view of women's disabilities and the disadvantages under which she has suffered in attempts to obtain interesting and beneficial muscular exercise, it seems hardly too much to say that the promise from the bicycle is far-reaching. Through it and the habits it will engender we look for better dress, freer dress, shorter dress in bad weather; for better exercise, for out-of-door activity, for steadier nerves, stronger muscles, painless periods, easy labors.

SURGERY.

Inhaling Chloroform.

Dr. A. Guerin, of Paris, (*Lancet*) says that death from chloroform may be avoided if inhaled exclusively through the mouth. When death occurs from stoppage of the heart, the cardiac muscular fibers cease to contract under the influence of a reflex action exerted by the nasal nerves on the pneumogastric, stimulating the inhibitory power of the latter on the heart. He further shows that when a rabbit is subjected to tracheotomy and then made to inhale chloroform directly through the trachea the drug has no effect whatever on the heart. On the contrary, when the chloroform is held before the nose of the rabbit, the heart immediately stops. The trachea being cut transversely, it is obvious that the chloroform inhaled by the nostrils cannot reach the heart through the bronchi. Dr. Guerin therefore assumes that the anesthetic agent exerts its injurious action on the movements of the heart through the intervention of the nasal nerves and the cardiac branches of the pneumogastric, the former acting reflexly on the latter. Dr. Guerin therefore advises that the nose of the patient should be held by the fingers until general anesthesia is produced, when there can no longer be any reflex action of the nasal mucous membrane anesthetized like the rest of the body.

The Danger of Apoplexy in Elderly Persons During Narcosis.

Senger, (*Deut. Med. Woch.*,) calls attention to the danger during the narcosis of elderly persons, and cites a case of a person of fifty-six suffering from sarcoma of the breast, but with healthy kidneys and heart, pulse normal but with sclerosed arteries. There was no undue excitement and but slight vomiting. Suddenly the face became deadly pale —the eyes fixed and expressionless, the pupils dilated and reactionless, the respiration shallow and gasping, the pulse could not be felt. The patient was finally restored by artificial respiration, heat, friction, etc., when it was found that had a partial hemiplegia of the right side. Two years later the patient had not fully recovered. The author believes this danger greater with ether than with chloroform, as arterial pressure is greater and longer sustained in ether narcosis, and hence he advises chloroform as the anesthetic of preference with elderly persons. Poffert reports a case of death after anesthesia in a previously healthy man of forty-six. The duration of the anesthesia was one-half hour and the amount of ether employed four and a half ounces. The ether was administered by Zerny's and lastly by Julliard's masks. The pulse was slow and regular, the breathing deep and rhythmical. Vomiting of mucus occurred during anesthesia and mucus rales were present at the end of the narcosis. The patient recovered consciousness quickly and there were no respiratory symptoms present for the first hour of the anesthesia. Then suddenly the breathing became difficult, loud, bubbling rales were heard and the patient coughed up a large amount of thick mucus. The pulse remained normal, the patient was perfectly conscious and it was thought to be only an excess of salivary secretion. The patient became worse despite the injection of camphor, the heart's action became feeble, he became cyanotic and died with symptoms of pulmonary œdema two and a half hours after the end of the anesthesia. The post mortem made the same day showed enormous œdema of the lower lobes of the lungs, which the author characterizes as post ether narcotic œdema of the lungs. Death during anesthesia is less frequent with ether than with chloroform, but the late deaths are more frequent with ether. The statistics collected up to the present time (*i. e.*, Guilt's) have not established the claimed superiority of ether over chloroform.

Cancer of the Breast—Operative Procedure and Statistics.

Halsted, of Baltimore, lays down this rule: "The pectoralis major, entire or all except its clavicular portion, should be excised in every case of cancer of the breast, because the operator is enabled thereby to remove in one piece all the suspected tissues.

The suspected tissues should be removed in one piece (1) least the wound become infected by the division of tissues invaded by the disease, and of lymphatic vessels containing cancer cells, and (2) because shreds or pieces of cancerous tissue might readily be overlooked in a piecemeal extirpation.

". . . Now . . . we regularly clean out the infraclavicular, and usually the supraclavicular region, and remove a part at least of the pectoralis major."

He calls attention to the hopeless attitude assumed to the disease by members of the profession who had been accustomed to the old procedure, in which the breast only was removed. "The younger Gross did not save one case in his first hundred. Dr. Hayes Agnew stated in a lecture shortly before his death that he operated on breast-cancer solely for the moral effect on patients."

"Encouraged by rare but positive cures, German surgeons, led by Volkmann, have for many years been earnestly at work on this problem."

Taking Volkmann's standard of three years' immunity as the guage of radical extirpation, the best results are as follows: Bergmann, 30.2 per cent.; Billroth, 4.7 per cent.; Fischer, 9.0 per cent.; Gussenbaur, 16.7 per cent; Konig, 22.5 per cent.; Kuster, 21.5 per cent.; Lucke, 16.2 per cent.; Volkmann, 14.0 per cent.

Of 50 cases operated on by Halsted after the manner set forth—

In 5 details are not obtainable.

In 3 only has there been local recurrence, that is in the scar, apparent or buried.

In 8 there has been regionary recurrence (skin or supraclavicular glands).

In 34 there has been no recurrence, local or regionary, these dating from 2½ years to two months, so that he is not yet in a position to compare his statistics with those already quoted.

No patient out of 50 died of the operation.

Ureterotomy.

Dr. Kelley (Johns Hopkins *Hospital Bulletin*) refers to three cases in which he resorted to this novel operation for the purpose of ascertaining the permeability of the ureter. The operations were for myoma uteri, carcinoma uteri and dense pelvic inflammatory disease. After the completion of the operations there was a fear that the ureter had been included in the ligature, as in each instance it appeared to be enlarged. To release a large number of ligatures and expose the patient to the risk of hemorrhage, or to perform catheterization of the ureter would have been impracticable. He therefore located the ureter at the pelvic brim, snipped the peritoneum over its course, and made a longitudinal incision one-half cm. in length into the lumen, through which he passed a small ureteral sound into the bladder.

In two cases the ureters were found so be free, the enlargement being due to the pressure of the pelvic mass previous to the operation. In the third case the ureter had been encluded *en masse* with a large area of bleeding tissue in the pelvic floor. After the removal of the ligature the sound passed easily into the bladder. By this simple operation much time was saved and all three cases had uninterrupted recoveries. For closing the slit in the ureter he used the delicate mattress suture in two cases. Third required four sutures on account ot the persistent oozing of the urine. These sutures are very lightly passed into the outer coat of the ureter, not entering its lumen.

Retro-Displacement of the Uterus.

Malpositions of the uterus are difficult to treat and require skill and patience. Dr. Alfred C. Carpenter, in speaking of retro-displacements of that organ in the *American Journal of Obstetrics*, advises never to attempt to replace a retro-displaced uterus with the patient on the back.

If the pessary fails, the operation of hysterorrhaphy may yield good results. Another method if that of shortening the round ligaments. A third method is called by Dr. A. P. Dudley of New York, desmopycnosis. The objects attained by this operation are three-fold:

1. It shortens the round ligaments without sacrificing any of them, sufficiently to hold the uterus in a position anterior to the perpendicular line of the body, by simply changing their point of uterine attachment and including with them the anterior fold of the broad ligament, across which the round ligament passes to reach the inguinal canal.

2. Denuding and firmly fastening the round ligaments to the anterior surface of the uterus thickens and gives extra support to the latter.

3. By this procedure you succeed in maintaining the uterus in a normal position without fastening any portion of it to the anterior abdominal wall.

Dudley claims the following advantages for this method over either hysterorrhaphy of the Alexander operation.

1. It corrects the displacement by utilizing the natural supports of the uterus without sacrificing any of them.

2. The proper diaphragmatic action of the pelvic floor is not interfered with.

3. The bladder is not imprisoned in the least and its proper action is undisturbed.

4. There is no chance for intestinal adhesions about the line of sutures, for the latter lie in apposition to the posterior surface of the bladder, and adhesions taking place at this point simply elongate the utero-vesical junction.

5. In case of impregnation the uterus is free to rise in the abdominal cavity.

6. The use of catgut as a suture material in the operation does away with the dangers of the formation of sinues by the ligature.

Fibroids and Conception; Pregnancy and Labor.

Dr. Hofmeier (*Zeitscher. f. Geburtsc. u. Gynak*) in a very complete and well-tabulated essay denies that fibroid disease of the uterus has any direct influence in causing sterility. Statistics do not show that, as has been alleged, subserous myoma predisposes considerably to sterility, whilst polypi and myoma of the cervix have little influence in that direction; nor can it be shown that fibroids promote sterility. These tumors seldom begin to appear till late in sexual life, so that if the patient is barren or a multipara the causes of her sterility or fecundity must have influenced her long before the development of her fibroid. The alleged frequency of this disease in elderly virgins is based on a fallacy. It is the local affectation which the most readily drives a spinster to the gynecologist, whilst middle-aged married women trouble less about small and slow-growing abdominal swellings. Women with fibroids who marry late in sexual life are fairly fertile, though Hofmeier can hardly make out cause and effect in this fact. Fibroids by no means strongly predispose to abortion. It seems that this accident happens only when the uterine cavity is rendered unfit to bear through the size and relations of the tumor; nor does fibroid greatly interfere with the uterine contractions during labor. The best time for hysterectomy is not immediately after delivery, but a few weeks or months later.

NEWS AND MISCELLANY.

The Buffalo Medical Journal

Will be fifty years old in a few weeks. The editors propose to signalize its semi-centennial anniversary by increasing its reading pages from 64 to 80, and by making other improvements that will contribute to its efficiency and keep it abreast of the professional progress of the period.

There are very few medical journals in this country that have reached the age of fifty years, and THE REPORTER extends its heartiest congratulations and cordial good will to a contemporary which after fifty years has not passed the prime of life, but with renewed spirit promises to be still young when it rounds out its century.